

# ExtremeXOS Release Notes

***Software Version ExtremeXOS 12.4.4-patch1-9***

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# Contents

<b>Chapter 1: Overview</b>	<b>5</b>
Feature Corrections in ExtremeXOS 12.4.4	5
Feature Corrections in ExtremeXOS 12.4.3	6
Feature Corrections in ExtremeXOS 12.4.2-patch1-3	6
Feature Corrections in ExtremeXOS 12.4.2	6
New Features and Functionality in ExtremeXOS 12.4.1	7
New Hardware Supported in ExtremeXOS 12.4.1	10
Supported Hardware	10
BlackDiamond 8800 Series of Switches Component Support	10
BlackDiamond 10808 Switch Component Support	11
BlackDiamond 12800 Series Switches Component Support	13
BlackDiamond 20800 Series Switch Component Support	13
Summit X150 and X350 Component Support	14
Summit X250e Component Support	15
Summit X450 Component Support	15
Summit X480 Component Support	16
Summit X650 Component Support	16
SFP (Mini-GBIC) Support	17
XENPAK Module Support	22
XFP Module Support	24
Upgrading to ExtremeXOS	26
Downloading Supported MIBs	26
ExtremeXOS Command Line Support	26
Tested Third-Party Products	27
Tested RADIUS Servers	27
Tested Third-Party Clients	27
PoE Capable VoIP Phones	27
Extreme Switch Security Assessment	28
DoS Attack Assessment	28
ICMP Attack Assessment	28
Port Scan Assessment	28
<b>Chapter 2: Limits</b>	<b>29</b>
Supported Limits	29
<b>Chapter 3: Open Issues, Known Behaviors, and Resolved Issues</b>	<b>61</b>
Open Issues	62
Known Behaviors	72
Resolved Issues in ExtremeXOS 12.4.4-patch1-9	77
Resolved Issues in ExtremeXOS 12.4.4-patch1-7	77
Resolved Issues in ExtremeXOS 12.4.4-patch1-5	79
Resolved Issues in ExtremeXOS 12.4.4-patch1-4	79
Resolved Issues in ExtremeXOS 12.4.4-patch1-2	80
Resolved Issues in ExtremeXOS 12.4.4	81
Resolved Issues in ExtremeXOS 12.4.3-patch1-5	83
Resolved Issues in ExtremeXOS 12.4.3	84
Resolved Issues in ExtremeXOS 12.4.2-patch1-10	85

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Resolved Issues in ExtremeXOS 12.4.2-patch1-8 .....	86
Resolved Issues in ExtremeXOS 12.4.2-patch1-5 .....	88
Resolved Issues in ExtremeXOS 12.4.2-patch1-3 .....	90
Resolved Issues in ExtremeXOS 12.4.2-patch1-1 .....	92
Resolved Issues in ExtremeXOS 12.4.2 .....	93
Resolved Issues in ExtremeXOS 12.4.1-patch1-5 .....	97
Resolved Issues in ExtremeXOS 12.4.1-patch1-4 .....	98
Resolved Issues in ExtremeXOS 12.4.1 .....	99

# 1

## Overview

### CHAPTER

These Release Notes document ExtremeXOS® 12.4.4, which resolves software deficiencies.

This chapter contains the following sections:

- [Feature Corrections in ExtremeXOS 12.4.4 on page 5](#)
- [Feature Corrections in ExtremeXOS 12.4.3 on page 6](#)
- [Feature Corrections in ExtremeXOS 12.4.2-patch1-3 on page 6](#)
- [Feature Corrections in ExtremeXOS 12.4.2 on page 6](#)
- [New Features and Functionality in ExtremeXOS 12.4.1 on page 7](#)
- [New Hardware Supported in ExtremeXOS 12.4.1 on page 10](#)
- [Supported Hardware on page 10](#)
- [Upgrading to ExtremeXOS on page 26](#)
- [Downloading Supported MIBs on page 26](#)
- [Tested Third-Party Products on page 27](#)
- [Extreme Switch Security Assessment on page 28](#)

## Feature Corrections in ExtremeXOS 12.4.4

This section lists the feature corrections supported in ExtremeXOS 12.4.4 software:

- **ELRP and ESRP Documentation Changes**—The following note will be included in the "Using ELRP with ESRP" section of the ELRP chapter in the next version of the *ExtremeXOS Concepts Guide*:



#### NOTE

The ExtremeXOS software does not support ELRP and Network Login on the same port. Also, ELRP should not be used to protect a VPLS ESRP domain because ELRP is not aware of VPLS pseudo wires.

The following note will be included in the "Configuring ELRP" section of the ELRP chapter and to the "Configuring MPLS Layer-2 VPNs" section of the MPLS chapter in the next version of the *ExtremeXOS Concept Guide*:

**NOTE**

ELRP should not be used to protect VPLS service VLANs because ELRP is not aware of VPLS pseudo wires.

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- **Secure Shell (SSH) Serialized Licensing and Distribution**—This process is not supported in ExtremeXOS 12.4.4 software.

## Feature Corrections in ExtremeXOS 12.4.3

This section lists the feature corrections supported in ExtremeXOS 12.4.3 software:

- **CVLAN Support**—CVLAN support on BlackDiamond 20800 series switches is updated in this release to support duplicate CVLAN tags on a switch. However, CVLANs with duplicate tags must not be assigned to the same port.

## Feature Corrections in ExtremeXOS 12.4.2-patch1-3

This section lists the feature corrections supported in ExtremeXOS 12.4.2-patch1-3 software:

- **BlackDiamond 20800 Series Switch**—The BlackDiamond 20800 series switch now supports 4,092 vMANs on a port whose ethertype is 0x8100 (PD4-1238488732).

## Feature Corrections in ExtremeXOS 12.4.2

This section lists the feature corrections supported in ExtremeXOS 12.4.2 software:

- **Bootstrap Protocol (BOOTP) Relay**
  - BOOTP Relay can now be enabled and disabled on a single VLAN.
  - Output from `show bootprelay configuration` command now displays the configuration of BOOTP Relay on one or all VLANs for the specified virtual router (VR).
- **Simple Network Management Protocol (SNMP)**—Provides support for enabling and disabling SNMP for any VR. The `enable snmp access`, `disable snmp access`, and `show snmp` commands have been modified to support this option.
- **Forwarding Database (FDB)**—The `show fdb stats` command now displays a dynamic page that automatically refreshes FDB entry statistics for specified ports and VLANs. The `no refresh` command option displays a static report.
- **IP Address Resolution Protocol (ARP)**—The `show iparp stats` command now displays a dynamic page that automatically refreshes IP ARP entry statistics for specified ports and VLANs. The `no refresh` command option displays a static report.
- **XML Notification**—New option allows user to specify a VR over which the XML client process can connect to a Web server to send push notifications. The `create xml-notification target url`, `configure xml-notification target`, and `show xml-notification` commands have been modified for this added support.

- **Ethernet Automatic Protection Switching (EAPS)**
  - Recognizes Provider Backbone Bridge (PBB) network configurations and provides connectivity protection for VLANs on PBB network. When the network topology includes both EAPS and a PBB domain, the EAPS controller mode automatically learns the relationship between the access VLANs (CVLANs or SVLANs) and the backbone VLAN (BVLAN). If the common link fails in this configuration, the EAPS master node selects the active port leading to the BVLAN.
  - The `configure eaps hello-pdu-egress` command is added for special network topologies that use spatial re-use and require that all EAPS Hello PDUs travel in the same direction on the ring. The default (primary-port) configuration for this command is recommended.
  - The `configure eaps failtime` and `configure eaps hellotime` commands have been updated to support configuration in milliseconds.
  - Fail-timer expiration time can now be set as low as 300ms.
- **Virtual Router (VR)**
  - The number of supported VRs increased from 8 to 64 on the BlackDiamond 8800 c-series. All other hardware supports up to eight user VRs.
  - Output from the `show virtual-router` command now indicates the maximum number of user VRs and protocols supported on the switch.
- **Reserved Words**—Prior to this release, all keywords were reserved. Reserved keywords cannot be used for naming user-created objects, such as VLANs. Beginning with this release, only second-level keywords are determined to be reserved. A complete list of reserved keywords is published in the “Getting Started” chapter of the *ExtremeXOS Concepts Guide*.
- **ExtremeXOS Documentation**
  - The *ExtremeXOS Command Reference Guide* includes two new lists indicating new or modified commands.
  - The “Open Source Licenses” appendix is removed from ExtremeXOS documentation. The Open Source License information is published on the World Wide Web and the URL can be found in the preface for each document.
  - The *ExtremeXOS Concepts Guide, Software Version 12.4*, incorrectly states that the “BlackDiamond 8800 original-series modules and Summit X450 switches transmit packets on a single port of a LAG.” This should read, “The MSM-G8X transmits broadcast, multicast, and unknown unicast packets on a single port of a LAG.”

## New Features and Functionality in ExtremeXOS 12.4.1

This section lists the new features and functionality supported in ExtremeXOS 12.4.1 software:

- **Address Resolution Protocol (ARP) Payload Virtual MAC Learning by Bridge**—Provides capability to learn MAC addresses that exist in the ARP payload.
- **Bidirectional Forwarding Detection (BFD)**—Provides ability to register a discovered neighbor with the BFD process and get the status of that neighbor. Also provides rapid failure detections and informs user of path convergence.
- **Border Gateway Protocol (BGP) 4-Byte Autonomous System (AS) Number**—Provides ability to configure 4-byte AS numbers for BGP and to peer simultaneously with 2-byte and 4-byte peers. Introduces optional, transitive attributes `AS4_PATH` and `AS4_AGGREGATOR` to propagate 4-byte AS path information across BGP speakers that do not support 4-byte AS numbers.
- **CLI Scripting Enhancements**—Enables user to:
  - Nest script loading up to three levels

- Exit from a script with an error code
- Configure a script-abort timer (time-out)
- Manually set an SNMP trap using a CLI command
- Configure time delay (TCL after function)
- **Connectivity Fault Management (CFM) Support on a Service VLAN (SVLAN)**—Provides ability to configure SVLAN ports to act as a maintenance end points (MEPs) and maintenance intermediate points (MIPs).
- **CFM Support on VPLS Node**—Allows each VPLS node to be treated as an MIP in CFM. Also enables VPLS-based MIPs to process and respond to link trace messages (LTMs) and loopback messages (LBM).
- **Digital Diagnostics Monitoring Interface (DDMI)**—Optional feature designed for debugging optic modules. DDMI provides critical system information about Gigabit and 10 Gigabit optical transceiver modules. Not all transceivers support DDMI capability. In ExtremeXOS 12.4.1, DDMI is supported only on XFPs.
- **Domain Name Service (DNS) Client Support for IPv6**—Provides ExtremeXOS applications the ability to convert hostnames to IP addresses by querying an external DNS server.
- **Equal Cost Multi-path (ECMP) Scaling**—Increases the number of IPv4 longest prefix match (LPM) routes that can use equal cost multi-path (ECMP) by sharing common ECMP gateway "sets" in hardware. ECMP scaling is supported on the following platforms: BlackDiamond 8000 a- and e-series modules, BlackDiamond 8800 c-series modules, BlackDiamond 8900 modules, BlackDiamond 20800 modules, and Summit X250e, X450a, X450e, X480, and X650 switches.
- **Extreme Loop Recovery Protocol (ELRP) Port Shutdown**—Provides ability to monitor individual VLANs for loops. In addition to log and trap notifications, this feature provides the option to disable a port on loop detection.
- **Hitless Failover with Nettools**—Provides a moderate level of hitless failover by protecting a switch from rebooting when the Nettools process fails.
- **Identity Management**—Allows you to track users or devices that access a network based on device name or user name (that is, user identity). User identity is captured based on network login authentication, Link Layer Discovery Protocol (LLDP) discovery, and Kerberos snooping. The user or device identity is mapped to its associated IP address, MAC address, computer hostname, domain name, VLAN, and switch port location. This information can also be sent to EPICenter for centralized reporting.
- **IPv6 Routes with Masks Greater than 64 Bits**—BlackDiamond 8900 modules and Summit X650 and X480 switches support hardware forwarding for IPv6 routes by using dedicated hardware. BlackDiamond 8000 a- and e-series modules, BlackDiamond 8800 c-series modules, and Summit X250e, X450a, and X450e switches also support hardware forwarding for up to 256 routes with masks greater than 64 bits by sharing the hardware used for ACL support.
- **Medium-Specific Configuration CLI**—Medium-specific configurations on combo ports allows users to select the medium (fiber or copper) they want to configure. Configuration for each medium is stored separately and simultaneously. This feature is only supported on Summit platforms having combo ports.
- **MIB Support for Connectivity Fault Management (CFM)**—Provides read access for CFM MIB objects via SNMP.
- **Multicast Debug Tools**—The multicast trouble-shooting commands, mrinfo and mtrace, are now included in the implementation of IP multicast. Mtrace is the multicast equivalent of the unicast "trace route" mechanism and is an effective debug command for testing multicast reachability. The multicast router information tool, mrinfo, requests information from a router.



- **Multiprotocol Label Switching (MPLS) Support for Standalone Summit X480 Series Switches**—MPLS support is now available on standalone Summit X480 series switches.
- **MPLS Support for Running on a Virtual Router (VR) Other than a Default VR**—MPLS runs on one VR at a time, but can now be deleted from the default VR and added to a user-created VR.
- **PIM-DM State Refresh**—Periodically refreshes the prune state for multicast groups. Without this feature, bandwidth is lost to periodic broadcast and prune cycles that occur when the prune state times out.
- **Policy-Based Routing (PBR)**—Allows user to bypass standard Layer 3 forwarding decisions for certain flows. Typically, in a Layer 3 environment, when an IP packet hits an Ethernet switch or router, the Layer 3 processing determines the next hop and outgoing interface for the packet based only on the packet's destination address.
- **Provider Backbone Bridge (PBB) Support on a BlackDiamond 20808 Switch**—Enables VMAN transport over the internet. PBB network is defined by the IEEE 802.1ah Backbone Bridge standard, which is an amendment to the IEEE 802.1Q VLAN standard. This standard allows Internet Service Providers (ISPs) to use Ethernet to create a separate backbone for transporting subscriber frames. The PBB network technology is sometimes referred to as MAC-in-MAC.
- **sFlow Support for the BlackDiamond 20800 Series Switch**—sFlow support is now available on BlackDiamond 20800 series switches.
- **Simple Network Management Protocol (SNMP) Support for IPv6**—Provides ability to manage an IPv6 agent from an IPv6 SNMP manager. The agent supports IPv6 for communication of SNMP management requests.
- **Simple Network Time Protocol (SNTP) Client Support for IPv6**—Provides ExtremeXOS SNTP clients the ability to get the current time by querying an NTP server running over IPv6.
- **Spanning Tree Protocol (STP) Edge Safeguard Enhancements**—Allows STP edge safeguard to disable a port as soon as a bridge protocol data unit (BPDU) is received by allowing a new CLI keyword `bpdu-restrict`. It also provides a timer option to re-enable a disabled port.
- **vMAN Terminology Change**—vMAN is an Extreme Networks term used to refer to double-tagged VLAN traffic. The 802.1ad Provider Bridged Network (PBN) standard also describes metropolitan area network technologies that are similar to vMAN. The vMAN and PBN terms are used interchangeably in ExtremeXOS documentation.
- **vMAN Enhancements**—Allow configuration of tagged VLANs and untagged vMANs on the same physical port. Enhancements also allow configuration of tagged VLANs and tagged vMANs on the same physical port when the VMAN ethertype is not 0x8100.
- **VPLS MIB Support**—Enables SNMP to obtain information about Layer 2 (L2) VPNs. These MIBs identify the pseudo-wires that are part of an L2 VPN. The MIBs also enable the association of a pseudo-wire with its transport link state PDU (LSP). Extreme proprietary MIBs allow user to identify primary and secondary LSPs in an RSVP LSP group. Support has also been added for pseudo-wire up and down traps (SNMP notifications).
- **VPLS with STP Redundancy**—Provides a reliable method of directly connecting an STP-protected VLAN to a VPLS network. Redundant VPLS nodes work with STP to handle topology changes in a customer network, including informing other VPLS nodes when an FDB flush is required. There is also no longer a CLI restriction preventing configuring a VPLS service on an STP-protected VLAN.
- **Virtual Router Redundancy Protocol (VRRP) Preempt Delay Option**—Provides ability to configure a delay time before preempting a lower priority master. Preempt delay is configurable on a per VRRP instance. This option avoids black holing traffic when an active gateway (for example, a router with a higher priority) recovers and preempts the backup router before the active gateway is fully operational.

## New Hardware Supported in ExtremeXOS 12.4.1

The following modules are supported in ExtremeXOS 12.4.1:

- BlackDiamond 8900 xl-series
  - 8900-G48X-xl
  - 8900-G48T-xl
  - 8900-10G8X-xl
- BlackDiamond 20800 Series Switch
  - BlackDiamond 20804 XFM-2
- Summit X480
  - Summit X480-24x
  - Summit X480-48x
  - Summit X480-48t
  - VIM2-SummitStack
  - VIM2-SummitStack128
  - VIM2-10G4x
- Summit X650
  - VIM1-SummitStack256

## Supported Hardware

Refer to the Extreme Networks hardware installation guides for more information about supported hardware. The following tables list the software filenames for the hardware that requires software.

### BlackDiamond 8800 Series of Switches Component Support

BlackDiamond 8800 and BlackDiamond 8806 components supported with ExtremeXOS 12.4.4, and the minimum BootROM version required by the chassis to support each component, include:

**Table 1: BlackDiamond 8800 Series of Switches Component Support**

<b>BlackDiamond 8810 and BlackDiamond 8806 Components</b>	<b>ExtremeXOS Filenames</b>	<b>ExtremeXOS Required</b>	<b>BootROM Version</b>
MSM-G8X	bd8800-12.4.4.10-patch1-9.xos	11.1.1.9	1.0.1.7
MSM-48	bd8800-12.4.4.10-patch1-9.xos	11.6.1.9	1.0.1.11
MSM-48c	bd8800-12.4.4.10-patch1-9.xos	12.1.1.4	1.0.3.7
8500-MSM24	bd8800-12.4.4.10-patch1-9.xos	12.3.1	1.0.4.2
8500-G48T-e	N/A	12.3.1	1.0.4.0
8500-G24X-e	N/A	12.3.1	1.0.4.0
8900-MSM128	bd8800-12.4.4.10-patch1-9.xos	12.3.1	1.0.4.2
8900-10G24X-c	N/A	12.3.1	1.0.1.0
8900-G96T-c	N/A	12.3.2	1.0.1.0

**Table 1: BlackDiamond 8800 Series of Switches Component Support (Continued)**

<b>BlackDiamond 8810 and BlackDiamond 8806 Components</b>	<b>ExtremeXOS Filenames</b>	<b>ExtremeXOS Required</b>	<b>BootROM Version</b>
8900-G48X-xl	N/A	12.4.1	1.0.1.2
8900-G48T-xl	N/A	12.4.1	1.0.1.2
8900-10G8X-xl	N/A	12.4.1	1.0.1.2
G48Te	N/A	11.5.1.4	1.0.1.10
G48Pe	N/A	11.5.1.4	1.0.1.10
G48Ta	N/A	11.5.1.4	1.0.1.10
G48Xa	N/A	11.5.1.4	1.0.1.10
G48P	N/A	11.1.1.9	1.0.1.7
G48T	N/A	11.1.1.9	1.0.1.7
G48Tc	N/A	12.1.1.4	1.0.3.7
G48Te2	N/A	12.1.1.4	1.0.3.7
G48Xc	N/A	12.1.1.4	1.0.3.7
G24X	N/A	11.1.1.9	1.0.1.7
G24Xc	N/A	12.1.1.4	1.0.3.7
S-G8Xc	N/A	12.1.1.4	1.0.3.7
10G4X	N/A	11.1.1.9	1.0.1.7
10G4Xa	N/A	11.6.1.9	1.0.1.11
10G4Ca	N/A	12.0.1.11	1.0.1.11
10G4Xc	N/A	12.1.1.4	1.0.3.7
10G8Xc	N/A	12.1.1.4	1.0.3.7
S-10G1Xc	N/A	12.1.1.4	1.0.3.7
PSU Controller	N/A	11.1.1.9	2.13
700/1200 W AC PSU (Model # 60020/PS 2336)	N/A	11.1.1.9	N/A
600/900 W AC PSU (Model # 41050/PS 2431) (BlackDiamond 8806 only)	N/A	11.6.1.9	N/A
1200 W DC PSU (Model # 60021/PS 2350)	N/A	11.3.2.6	N/A

**NOTE**

Upgrading the BootROM on a BlackDiamond 8810 or BlackDiamond 8806 switch is not automatic when software is upgraded. The user must be running the minimum required BootROM version or later. Use the install firmware command after upgrading the ExtremeXOS image to insure the BootROM is at the latest level.

## BlackDiamond 10808 Switch Component Support

BlackDiamond 10808 components supported with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required by the chassis to support each component, include:

**Table 2: BlackDiamond 10808 Component Support**

BlackDiamond Component	ExtremeXOS Filenames	ExtremeXOS Required	BootROM Version
MSM-1	bd10k-12.4.4.10-patch1-9.xos	10.1.0	1.0.1.5
MSM-1XL	bd10k-12.4.4.10-patch1-9.xos	10.1.0	1.0.1.5
10G2X	N/A	11.1.1	1.3.0.0
10G2H	N/A	11.2.0	1.3.0.0
10G6X	N/A	10.1.0	1.3.0.0
G20X	N/A	11.1.1	1.3.0.0
G60X	N/A	10.1.0	1.3.0.0
G60T	N/A	10.1.0	1.3.0.0
PSU Controller	N/A	10.1.0	N/A
700/1200 W AC PSU (Model # 60020/PS 2336)	N/A	10.1.0	N/A
1200 W DC PSU (Model # 60021/PS 2350)	N/A	11.3.2.6	N/A

Following are the part numbers for the BlackDiamond 10808 modules with the Rev. D ASIC:

**Table 3: BlackDiamond 10808 I/O Modules with Part Numbers**

I/O Module	8000 Level Part No.	9000 Level Part No.	Description	ExtremeXOS Required
G60T	804403-00, after Rev. 16	904015-00	BlackDiamond 10808 60-port 10/100/1000BASE-T RJ-45 Module	11.2.1.3
	804408-00, after Rev. 03	904015-10	BlackDiamond 10808 60-port 10/100/1000BASE-T RJ-45 Module	11.2.1.3
G60X	804402-00, after Rev. 16	904009-00/11	BlackDiamond 10808 60-port 1000BASE-X SFP (mini-GBIC) Module	11.2.1.3
	804404-00, after Rev. 03	904009-10	BlackDiamond 10808 60-port 1000BASE-X SFP (mini-GBIC) Module	11.2.1.3
G20X	804407-00, after Rev. 03	904020-10	BlackDiamond 10808 20-port 1000BASE-X SFP (mini-GBIC) Module	11.2.1.3
	804470-00, after Rev. 08	904020-00/11	BlackDiamond 10808 20-port 1000BASE-X SFP (mini-GBIC) Module	11.2.1.3
10G2X	804410-00, after Rev. 03	904032-10	BlackDiamond 10808 2-port 10GBASE-X XENPAK Module	11.2.1.3
	804471-00, after Rev. 11	904032-00/11	BlackDiamond 10808 2-port 10GBASE-X XENPAK Module	11.2.1.3
10G2H	804406-00, after Rev. 09	904027-00/11	BlackDiamond 10808 Hybrid Module (2-port 10GBASE-X XENPAK, 20-port 1000BASE-X SFP, 20-port 10/100/1000BASE-T RJ-45)	11.2.1.3
	804411-00, after Rev. 03	904027-10	BlackDiamond 10808 Hybrid Module (2-port 10GBASE-X XENPAK, 20-port 1000BASE-X SFP, 20-port 10/100/1000BASE-T RJ-45)	11.2.1.3
10G6X	804405-00, after Rev. 18	904016-00/11	BlackDiamond 10808 6-port 10GBASE-X XENPAK Module	11.2.1.3
	804409-00, after Rev. 03	904016-10	BlackDiamond 10808 6-port 10GBASE-X XENPAK Module	11.2.1.3

## BlackDiamond 12800 Series Switches Component Support

BlackDiamond 12802, BlackDiamond 12804, BlackDiamond 12802 R-Series, and BlackDiamond 12804 R-Series components supported with ExtremeXOS 12.4.4, and the minimum BootROM version required by the chassis to support each component, include:

**Table 4: BlackDiamond 12800 Series Switches Component Support**

BlackDiamond 12802/12804 Components	ExtremeXOS Filenames	ExtremeXOS Required	BootROM Version
MSM-5R (BlackDiamond 12804)	bd12k-12.4.4.10-patch1-9.xos	11.4.1.4	1.0.0.2
MSM-5 (BlackDiamond 12804)	bd12k-12.4.4.10-patch1-9.xos	11.4.1.4	1.0.0.2
MSM-5 (BlackDiamond 12802)	bd12k-12.4.4.10-patch1-9.xos	12.0.1.11	1.0.0.2
MSM-6R	bd12k-12.4.4.10-patch1-9.xos	12.0.2.25	1.0.1.8
MSM-5R (BlackDiamond 12802)	bd12K-12.4.4.10-patch1-9.xos	12.0.1.11	1.0.0.2
XM-2X	N/A	12.2.2	N/A
XM-2XR	N/A	11.4.1.4	N/A
XM-2HR	N/A	12.1.1.4	N/A
GM-20XTR	N/A	11.4.1.4	N/A
GM-20XT	N/A	11.4.1.4	N/A
GM-20T	N/A	11.4.1.4	N/A
PSU Controller	N/A	11.4.1.4	2.13
700/1200 W AC PSU (Model # 60020/PS 2336)	N/A	11.4.1.4	N/A
1200 W DC PSU (Model # 60021/PS 2350)	N/A	11.4.1.4	N/A

## BlackDiamond 20800 Series Switch Component Support

BlackDiamond 20800 series switch components supported with ExtremeXOS 12.4.4, and the firmware version required by the software to support each component, include:

**Table 5: BlackDiamond 20800 Series Switch Component Support**

BlackDiamond 20800 Components	ExtremeXOS Filenames	ExtremeXOS Required	Firmware Version Required with ExtremeXOS 12.4.4
GM-40X uC FPGA: A FPGA: P FPGA: T1 FPGA: W1 & W2 BootROM	N/A	12.3.2	2.7 0.1.7 0.0.6 0.0.11 0.0.d 0.0.3.5
XM-8X uC FPGA: A FPGA: P FPGA: D1 and D2 (manual upgrade) FPGA: T1 & T2 FPGA: WH BootROM	N/A	12.3.2	2.7 0.1.6 0.0.6 0.0.b 0.0.11 0.0.9 0.0.3.5

**Table 5: BlackDiamond 20800 Series Switch Component Support (Continued)**

BlackDiamond 20800 Components	ExtremeXOS Filenames	ExtremeXOS Required	Firmware Version Required with ExtremeXOS 12.4.4
XFM-1 (shown as Fabric-1 through Fabric-5) (BlackDiamond 20808) uC	N/A	12.3.2	2.7
XFM-2 (shown as Fabric-1 through Fabric-5) (BlackDiamond 20804) uC	N/A	12.4.1	2.6
MM Basic uC FPGA: S BootROM PSUCTRL	bd20k-12.4.4.10-patch1-9.xos	12.3.2	2.7 0.3.E 0.2.1 2.8
Fan Tray (BlackDiamond 20808) (part number 806014) uC (shown as "Revision")	N/A	12.3.2	2.7
Fan Tray (BlackDiamond 20804) (part number 806030) uC (shown as "Revision")	N/A	12.4.1	2.7

**NOTE**

Use the `show version detail` command to see the firmware version. Use the `show fans` command to see the fan tray version and to ensure that all fans are operational before running the `install firmware` command. Use the `show slots` command to see which slots are operational.

## Summit X150 and X350 Component Support

Summit X150 and X350 series components supported with ExtremeXOS 12.4.4, and the minimum BootROM version required by the switch to support each component, include:

**Table 6: Summit X150 and X350 Component Support**

Summit X150 and X350 Components	ExtremeXOS Filenames	Minimum ExtremeXOS Required	Minimum BootROM Version
Summit X150-24t	summitX-12.4.4.10-patch1-9.xos	12.0.2.25	1.0.3.1
Summit X150-48t	summitX-12.4.4.10-patch1-9.xos	12.0.2.25	1.0.3.1
Summit X150-24p	summitX-12.4.4.10-patch1-9.xos	12.0.2.25	1.0.3.1
Summit X350-24t	summitX-12.4.4.10-patch1-9.xos	12.0.3.16	1.0.3.1
Summit X350-48t	summitX-12.4.4.10-patch1-9.xos	12.0.3.16	1.0.3.1
XGM2-2sf (Summit X350 only)	summitX-12.4.4.10-patch1-9.xos	12.2.1	N/A
XGM2-2bt (Summit X350 only)	summitX-12.4.4.10-patch1-9.xos	12.2.1	N/A

## Summit X250e Component Support

Summit X250e components supported with ExtremeXOS 12.4.4, and the minimum BootROM version required by the switch to support each component, include:

**Table 7: Summit X250e Component Support**

Summit X250 Components	ExtremeXOS Filenames	Minimum ExtremeXOS Required	Minimum BootROM Version
Summit X250e-24p	summitX-12.4.4.10-patch1-9.xos	12.0.1.11	1.0.3.0
Summit X250e-48p	summitX-12.4.4.10-patch1-9.xos	12.0.1.11	1.0.3.0
Summit X250e-24t	summitX-12.4.4.10-patch1-9.xos	12.0.1.11	1.0.3.0
Summit X250e-48t	summitX-12.4.4.10-patch1-9.xos	12.0.1.11	1.0.3.0
Summit X250e-24x	summitX-12.4.4.10-patch1-9.xos	12.0.2.25	1.0.3.1
Summit X250e-24tDC	summitX-12.4.4.10-patch1-9.xos	12.0.3.16	1.0.3.1
Summit X250e-24xDC	summitX-12.4.4.10-patch1-9.xos	12.0.3.16	1.0.3.1
Summit X250e-48tDC	summitX-12.4.4.10-patch1-9.xos	12.0.3.16	1.0.3.1

## Summit X450 Component Support

Summit X450 components supported with ExtremeXOS 12.4.4, and the minimum BootROM version required by the switch to support each component, include:

**Table 8: Summit X450 Component Support**

Summit X450 Components	ExtremeXOS Filenames	Minimum ExtremeXOS Required	Minimum BootROM Version
<b>Summit X450a Series</b>			
Summit X450a-48t	summitX-12.4.4.10-patch1-9.xos	11.5.1.4	1.0.2.2
Summit X450a-48tDC	summitX-12.4.4.10-patch1-9.xos	11.6.1.9	1.0.2.2
Summit X450a-24t	summitX-12.4.4.10-patch1-9.xos	11.5.1.4	1.0.2.2
Summit X450a-24tDC	summitX-12.4.4.10-patch1-9.xos	11.5.1.4	1.0.2.2
Summit X450a-24xDC	summitX-12.4.4.10-patch1-9.xos	11.6.1.9	1.0.2.2
Summit X450a-24x	summitX-12.4.4.10-patch1-9.xos	11.6.1.9	1.0.2.2
<b>Summit X450e Series</b>			
Summit X450e-24p	summitX-12.4.4.10-patch1-9.xos	11.5.1.4	1.0.2.2
Summit X450e-48p	summitX-12.4.4.10-patch1-9.xos	11.6.1.9	1.0.2.2
<b>Summit X450 Series</b>			
Summit X450-24x	summitX-12.4.4.10-patch1-9.xos	11.2.2.4	1.0.0.9
Summit X450-24t	summitX-12.4.4.10-patch1-9.xos	11.2.2.4	1.0.0.9
<b>Option Cards</b>			
XGM-2xn	summitX-12.4.4.10-patch1-9.xos	N/A	N/A
XGM2-2xn (Summit X450a and X450e series only)	summitX-12.4.4.10-patch1-9.xos	11.5.1.4	
XGM2-2xf (Summit X450a and X450e series only)	summitX-12.4.4.10-patch1-9.xos	11.5.1.4	

**Table 8: Summit X450 Component Support**

Summit X450 Components	ExtremeXOS Filenames	Minimum ExtremeXOS Required	Minimum BootROM Version
XGM2-2sf (Summit X450a and X450e series only)	summitX-12.4.4.10-patch1-9.xos	12.2.1	
XGM2-2bt (Summit X450a and X450e series only)	summitX-12.4.4.10-patch1-9.xos	12.2.1	

## Summit X480 Component Support

Summit X480 components supported with ExtremeXOS 12.4.4, and the minimum BootROM version required by the chassis to support each component, include:

**Table 9: Summit X480 Component Support**

Summit X480 Components	ExtremeXOS Filenames	Minimum ExtremeXOS Required	Minimum BootROM Version
Summit X480-24x	summitX-12.4.4.10-patch1-9.xos	12.4.1	2.0.0.9
Summit X480-48x	summitX-12.4.4.10-patch1-9.xos	12.4.1	2.0.0.9
Summit X480-48t	summitX-12.4.4.10-patch1-9.xos	12.4.1	2.0.0.9
VIM2-SummitStack	summitX-12.4.4.10-patch1-9.xos	12.4.1	N/A
VIM2-SummitStack128	summitX-12.4.4.10-patch1-9.xos	12.4.1	N/A
VIM2-10G4X	summitX-12.4.4.10-patch1-9.xos	12.4.1	N/A

## Summit X650 Component Support

Summit X650 components supported with ExtremeXOS 12.4.4, and the minimum BootROM version required by the chassis to support each component, include:

**Table 10: Summit X650 Component Support**

Summit X650 Components	ExtremeXOS Filenames	Minimum ExtremeXOS Required	Minimum BootROM Version
Summit X650-24x	summitX-12.4.4.10-patch1-9.xos	12.2.1	1.0.5.5
Summit X650-24t	summitX-12.4.4.10-patch1-9.xos	12.2.2	1.0.5.5
VIM1-SummitStack	summitX-12.4.4.10-patch1-9.xos	12.2.1	N/A
VIM1-10G8X	summitX-12.4.4.10-patch1-9.xos	12.2.2	N/A
VIM1-SummitStack256	summitX-12.4.4.10-patch1-9.xos	12.4.1	N/A
VIM1-SummitStack512	summitX-12.4.4.10-patch1-9.xos	12.3.3	N/A



### NOTE

Upgrading the BootROM on Summit family switches is not automatic when software is upgraded. The user must be running the minimum required BootROM version. Use the `download bootrom` command to download a BootROM image.



## SFP (Mini-GBIC) Support

SFPs supported on the BlackDiamond 8810 and BlackDiamond 8806 switches with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 11: BlackDiamond 8800 Series of Switches SFP Support**

SFP	ExtremeXOS Required
1000BASE-T SFP	11.1.1.9
SX SFP	11.1.1.9
LX SFP	11.1.1.9
ZX SFP	11.1.1.9
100FX/1000LX SFP	11.3.1.3
100FX SFP	11.4.3.4 or 11.5.2.10 (not supported in 11.5.1.4)
1000BX SFP	11.4.1.4
LX100 SFP	12.0.1.11
10/100/1000BASE-T Copper SFP	12.0.2.25

**Table 12: BlackDiamond 8800 Series of Switches SFP+ Support**

SFP	ExtremeXOS Required
ER SFP+	12.3.3
SR SFP+	12.3.1
LR SFP+	12.3.1
SFP+ twin coax cable	12.3.1

SFPs supported on the BlackDiamond 10808 switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 13: BlackDiamond 10808 Switch SFP Support**

SFP	ExtremeXOS Required
LX100 SFP	12.0.1.11
SX SFP	10.1.0
LX SFP	10.1.0
ZX SFP	10.1.0
1000BASE-T SFP	11.1.1.9
1000BX SFP	11.6.1.9

SFPs supported on the BlackDiamond 12804 switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 14: BlackDiamond 12804 Switch SFP Support**

SFP	ExtremeXOS Required
SX SFP	11.4.1.4
LX SFP	11.4.1.4
ZX SFP	11.4.1.4

**Table 14: BlackDiamond 12804 Switch SFP Support (Continued)**

SFP	ExtremeXOS Required
1000BASE-T SFP	11.4.1.4
1000BX SFP	11.6.1.9
LX100 SFP	12.0.1.11
100FX/1000LX SFP	11.6.1.9

SFPs supported on the BlackDiamond 12802 switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 15: BlackDiamond 12802 Switch SFP Support**

SFP	ExtremeXOS Required
SX SFP	12.0.1.11
LX SFP	12.0.1.11
ZX SFP	12.0.1.11
1000BASE-T SFP	12.0.1.11
1000BX SFP	12.0.1.11
LX100 SFP	12.0.1.11
100FX/1000LX SFP	12.0.1.11

SFPs supported on the BlackDiamond 20800 switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 16: BlackDiamond 20800 Switch SFP Support**

SFP	ExtremeXOS Required
SX SFP	12.2
LX SFP	12.2
ZX SFP	12.2
LX100	12.2
BXU	12.2
BXD	12.2

SFPs supported on the Summit X150 series switches with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 17: Summit X150 Series Switches SFP Support**

SFP	ExtremeXOS Required
100BASE-FX (P/N 10067)	12.0.2.25
100BASE-BX SFP	12.0.2.25
100BASE LX10 SFP	12.0.2.25
SX SFP	12.0.2.25
LX SFP	12.0.2.25
ZX SFP	12.0.2.25

**Table 17: Summit X150 Series Switches SFP Support (Continued)**

SFP	ExtremeXOS Required
LX100 SFP	12.0.2.25
1000BX SFP	12.0.2.25

SFPs supported on the Summit X250e switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 18: Summit X250e SFP Support**

SFP	ExtremeXOS Required
SX SFP, ports 25 and 26	12.0.2.25
LX SFP, ports 25 and 26	12.0.2.25
ZX SFP, ports 25 and 26	12.0.2.25
LX100 SFP, ports 25 and 26	12.0.2.25
1000BX SFP, ports 25 and 26	12.0.2.25
100BASE FX SFP (P/N 10067), ports 1 through 26	12.0.2.25
100BASE BX SFP, ports 1 through 26	12.0.2.25
100BASE LX10 SFP, ports 1 through 26	12.0.2.25

SFPs supported on the Summit X350 series switches with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**NOTE**

The XGM2-2sf ports are 10Gb SFP+ ports and do not support 1Gb optics (PD4-739782255).

**Table 19: Summit X350 Series Switches SFP/SFP+ (XGM2-2sf Option Card Required) Support**

SFP	ExtremeXOS Required
SX SFP	12.0.3.16
LX SFP	12.0.3.16
ZX SFP	12.0.3.16
LX100 SFP	12.0.3.16
1000BX SFP	12.0.3.16
ER SFP+	12.3.3
SR SFP+	12.2.1
LR SFP+	12.2.1
SFP+ twin coax cables	12.2.1

SFPs supported on the Summit X450 switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 20: Summit X450 Switch SFP Support**

SFP	ExtremeXOS Required
10/100/1000BASE-T Copper SFP <b>Note:</b> Not supported on combo ports.	12.0.2.25
SX SFP	11.2.2.4
LX SFP	11.2.2.4
ZX SFP	11.2.2.4
1000BASE-T SFP	11.2.2.4
100FX SFP (P/N 10063) <b>Note:</b> Not supported on combo ports.	11.4.3.4 or 11.5.2.10 (not supported in 11.5.1.4)
100FX/1000LX SFP <b>Note:</b> Not supported on combo ports.	11.3.1.3
LX100 SFP	12.0.1.11
1000BX SFP	11.6.1.9

SFPs supported on the Summit X450a switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:



**NOTE**

The XGM2-2sf ports are 10Gb SFP+ ports and do not support 1Gb optics (PD4-739782255).

**Table 21: Summit X450a Switch SFP/SFP+ (XGM2-2sf Option Card Required) Support**

SFP	ExtremeXOS Required
10/100/1000BASE-T Copper SFP <b>Note:</b> Not supported on combo ports.	12.0.2.25
SX SFP	11.2.2.4
LX SFP	11.2.2.4
ZX SFP	11.2.2.4
ER SFP+	12.3.3
SR SFP+	12.2.1
LR SFP+	12.2.1
SFP+ twin coax cables	12.2.1
100FX SFP (P/N 10063) <b>Note:</b> Not supported on combo ports.	11.6.1.9
100FX/1000LX SFP • Summit X450a-24x, ports 1 through 20 <b>Note:</b> Not supported on combo ports.	11.6.1.9
LX100 SFP	12.0.1.11
1000BX SFP	11.6.1.9

SFPs supported on the Summit X450e switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**NOTE**

The XGM2-2sf ports are 10Gb SFP+ ports and do not support 1Gb optics (PD4-739782255).

**Table 22: Summit X450e Switch SFP/SFP+ (XGM2-2sf Option Card Required) Support**

SFP	ExtremeXOS Required
SX SFP	11.6.1.9
LX SFP	11.6.1.9
ZX SFP	11.6.1.9
LX100 SFP	12.0.1.11
1000BX SFP	11.6.1.9
ER SFP+	12.3.3
SR SFP+	12.2.1
LR SFP+	12.2.1
SFP+ twin coax cables	12.2.1

SFPs supported on the Summit X480 switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 23: Summit X480 SFP Support**

SFP	ExtremeXOS Required
SX mini-GBIC	12.4.1
LX mini-GBIC	12.4.1
ZX mini-GBIC	12.4.1
1000BASE-BX mini-GBIC BX-D	12.4.1
1000BASE-BX mini-GBIC BX-U	12.4.1
100BASE-BX mini-GBIC BX-D	12.4.1
100BASE-BX mini-GBIC BX-U	12.4.1
100BASE LX10 mini-GBIC	12.4.1
100BASE FX mini-GBIC module	12.4.1
LX100 mini-GBIC module	12.4.1
100 FX/1000LX mini-GBIC, not supported on combo ports	12.4.1
100FX mini-GBIC module, not supported on combo ports	12.4.1
10/100/1000Base-T mini-GBIC, not supported on combo ports	12.4.1

SFPs supported on the Summit X650 series switches with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 24: Summit X650 Series Switches SFP/SFP+ Support**

SFP	ExtremeXOS Required
SR SFP+, ports 1 through 24, and ports 25 through 32 (for the VIM1-10G8X)	12.2.2
LR SFP+, ports 1-24 and 25-32 for VIM1-10G8X	12.2.2
SFP+ twin coax cable - 1-24 and 25-32 for VIM1-10G8X	12.2.2
10/100/1000BASE-T SFP+ Copper—1000 speed support only <b>Note:</b> Not supported on port 23 and 24	12.3.3
ER SFP+	12.3.3
1000BX SFP, not supported on ports 23, 24	12.2.1
1000SX SFP, not supported on ports 23, 24	12.2.1
1000LX SFP, not supported on ports 23, 24	12.2.1
1000 BASE-T SFP, not supported on ports 23, 24	12.3.1
LX100 SFP, not supported on ports 23, 24	12.2.1
ZX SFP, not supported on ports 23, 24	12.2.1

## XENPAK Module Support

XENPAK modules supported on the BlackDiamond 8800 series of switches with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 25: BlackDiamond 8800 Series of Switches XENPAK Support**

XENPAK Module	ExtremeXOS Required
LR	11.1.1.9
ER	11.1.1.9
SR	11.1.1.9
LX4	11.3.1.3
ZR	11.3.1.3
CX4	12.0.1.11

XENPAK modules supported on the BlackDiamond 10808 switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 26: BlackDiamond 10808 Switch XENPAK Support**

XENPAK Module	ExtremeXOS Required
LR	11.1.1.9
ER	11.1.1.9
SR	11.1.1.9
LX4	11.3.1.3
ZR	11.3.1.3
LW	11.4.1.4

XENPAK modules supported on the BlackDiamond 12804 switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 27: BlackDiamond 12804 Switch XENPAK Support**

XENPAK Module	ExtremeXOS Required
LR	11.4.1.4
ER	11.4.1.4
SR	11.4.1.4
LX4	11.4.1.4
ZR	11.4.1.4
LW	11.4.1.4

XENPAK modules supported on the BlackDiamond 12802 switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include

**Table 28: BlackDiamond 12802 Switch XENPAK Support**

XENPAK Module	ExtremeXOS Required
LR	12.0.1.11
ER	12.0.1.11
SR	12.0.1.11
LX4	12.0.1.11
ZR	12.0.1.11
LW	12.0.1.11

XENPAK modules supported on the Summit X450 switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 29: Summit X450 Switch XENPAK Support**

XENPAK Module	ExtremeXOS Required
SR	11.3.1.3
LR	11.3.1.3
ER	11.3.1.3
LX4	11.3.1.3
ZR	11.3.1.3

XENPAK modules supported on the Summit X450a switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 30: Summit X450a Switch XENPAK Support**

XENPAK Module	ExtremeXOS Required
SR	11.6.1.9
LR	11.6.1.9
ER	11.6.1.9
LX4	11.6.1.9

**Table 30: Summit X450a Switch XENPAK Support (Continued)**

XENPAK Module	ExtremeXOS Required
ZR	11.6.1.9
LW	11.6.1.9
CX4	12.0.1.11

XENPAK modules supported on the Summit X450e switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 31: Summit X450e Switch XENPAK Support**

XENPAK Module	ExtremeXOS Required
SR	11.5.1.4
LR	11.5.1.4
ER	11.5.1.4
LX4	11.5.1.4
ZR	11.5.1.4
CX4	12.0.1.11

XENPAK modules supported on the Summit X350 switch with ExtremeXOS 12.4.4, and the minimum ExtremeXOS version required, include:

**Table 32: Summit X350 Switch XENPAK Support**

XENPAK Module	ExtremeXOS Required
SR	12.0.3.16
LR	12.0.3.16
ER	12.0.3.16
LX4	12.0.3.16
ZR	12.0.3.16

XENPAKs not supplied by Extreme Networks will show up as “Unsupported Optic Module” in the `show port x:y` information detail and `show port x:y configuration` command output.

## XFP Module Support

XFP modules supported on the BlackDiamond 8800 series of switches with ExtremeXOS 12.4.4, the minimum ExtremeXOS version required include:

**Table 33: BlackDiamond 8800 Series of Switches XFP Support**

XFP Module	ExtremeXOS Required
SR	11.6.1.9
LR	11.6.1.9
ER	12.0.2.25
DWDM	12.1.2.17
ZR	12.1.2.17



XFP modules supported on the BlackDiamond 20800 switch with ExtremeXOS 12.4.4, the minimum ExtremeXOS version required include:

**Table 34: BlackDiamond 20800 Switch XFP Support**

XFP Module	ExtremeXOS Required
SR	12.2
LR	12.2
ER	12.2
ZR	12.2

XFP modules supported on the Summit X480 series switch with ExtremeXOS 12.4.4, the minimum ExtremeXOS version required, and the manufacturers supported include:

**Table 35: Summit X480 Series Switch XFP Support**

XFP Module	ExtremeXOS Required
SR	12.4.1
LR	12.4.1
ER	12.4.1
ZR	12.4.1
DWDM	12.4.1

XFP modules supported on the Summit X450a and X450e series switch with ExtremeXOS 12.4.4, the minimum ExtremeXOS version required, and the manufacturers supported include:

**Table 36: Summit X450a and X450e Series Switch XFP Support**

XFP Module	ExtremeXOS Required
SR	11.5.1.4
LR	11.5.1.4
ER	12.0.2.25
DWDM	12.1.2.17
ZR	12.1.2.17

XFP modules supported on the Summit X350 switch with ExtremeXOS 12.4.4, the minimum ExtremeXOS version required, and the manufacturers supported include:

**Table 37: Summit X350 Switch XFP Support**

XFP Module	ExtremeXOS Required
SR	12.0.3.16
LR	12.0.3.16
ER	12.0.3.16
DWDM	12.1.2.17
ZR	12.1.2.17

## Upgrading to ExtremeXOS

See “Software Upgrade and Boot Options” in the *ExtremeXOS Concepts Guide* for instructions on upgrading ExtremeXOS software.

Miscellaneous notes regarding hitless upgrade:

- Beginning with ExtremeXOS 12.1, an ExtremeXOS core image (.xos file) must be downloaded and installed on the alternate (non-active) partition. If you try to download to an active partition, the error message "Error: Image can only be installed to the non-active partition." is displayed. An ExtremeXOS modular software package (.xmod file) can still be downloaded and installed on either the active or alternate partition.
- For the BlackDiamond 8800 series of switches, a hitless upgrade to ExtremeXOS 12.4.4 from an earlier release is not supported and should not be attempted. Use the normal software upgrade process for these switches.
- Hitless upgrade from ExtremeXOS 12.0 and earlier to ExtremeXOS 12.1 and later is not supported on the BlackDiamond 12800 switch.

## Downloading Supported MIBs

The Extreme Networks MIBs are located on the eSupport website under Download Software Updates, located at:

<https://esupport.extremenetworks.com/>

## ExtremeXOS Command Line Support

The following is true for all Summit X150 and X350 series switches:

- Summit X150 and X350 series switches do not support L3 functionality; this platform does not support CLI commands for L3 functionality.
- Summit X150 and X350 series switches do not support stacking; all CLI commands for stacking are not supported on this platform.
- Summit X150 and X350 series switches do not support IP forwarding; however, CLI commands that configure IP addresses function in order to access the management functionality of the switch are supported.
- Upgrade or trial licensing is not available on the Summit X150 and X350 series switches.

## Tested Third-Party Products

This section lists the third-party products tested for ExtremeXOS 12.4.4.

### Tested RADIUS Servers

The following RADIUS servers are fully tested:

- Microsoft—Internet Authentication Server
- Funk Software—Steel-Belted RADIUS Enterprise Edition 4.5
- Meetinghouse
- FreeRADIUS

### Tested Third-Party Clients

The following third-party clients are fully tested:

- Funk Odyssey 2.2
- MeetingHouse Data AEGIS 2.0.5
- Odyssey 3.03.0.1194

### PoE Capable VoIP Phones

The following PoE capable VoIP phones are fully tested:

- Avaya 4620
- Avaya 4620SW IP telephone
- Avaya 9620
- Avaya 4602
- Avaya 9630
- Avaya 4621SW
- Avaya 4610
- Avaya 1616
- Avaya one-X
- Cisco 7970
- Cisco 7910
- Cisco 7960
- ShoreTel ShorePhone IP 212k
- ShoreTel ShorePhone IP 560
- ShoreTel ShorePhone IP 560g
- ShoreTel ShorePhone IP 8000
- ShoreTel ShorePhone IP BB 24
- Siemens OptiPoint 410 standard-2
- Siemens OpenStage 20

- Siemens OpenStage 40
- Siemens OpenStage 60
- Siemens OpenStage 80

## Extreme Switch Security Assessment

### DoS Attack Assessment

Tools used to assess DoS attack vulnerability:

- Network Mapper (NMAP)

### ICMP Attack Assessment

Tools used to assess ICMP attack vulnerability:

- SSPing
- Twinge
- Nuke
- WinFreeze

### Port Scan Assessment

Tools used to assess port scan assessment:

- Nessus

# 2 Limits

## CHAPTER

This chapter summarizes the supported limits in ExtremeXOS 12.4.4.

## Supported Limits

[Table 38](#) summarizes tested metrics for a variety of features, as measured in a per-system basis unless otherwise noted. These limits may change but represent the current status. The contents of this table supersede any values mentioned in the *ExtremeXOS Concepts Guide*.



### NOTE

The term “BlackDiamond 8000 e-series” refers to all BlackDiamond 8500 e-series and 8800 e-series modules. The term “*BlackDiamond 8000 series*” refers to all BlackDiamond 8500, 8800, and 8900 series modules.

The scaling and performance information shown in [Table 38](#) is provided for the purpose of assisting with network design. It is recommended that network architects and administrators design and manage networks with an appropriate level of network scaling “head room.” The scaling and performance figures provided have been verified using specific network topologies using limited switch configurations. There is no guarantee that the scaling and performance figures shown are applicable to all network topologies and switch configurations and are provided as a realistic estimation only. If you experience scaling and performance characteristics that you feel are sufficiently below what has been documented, contact Extreme Networks technical support for additional assistance.

The route limits shown in [Table 38](#) for IPv4 and IPv6 routing protocols are software limits only. The actual hardware limits may be lower than the software limits, based on platform. The hardware limits for specific platforms are specified as “IPv4/IPv6 routes (LPM entries in hardware)” in the following table.

On certain BlackDiamond 8000 and Summit products, it is not advised to have greater than 25,000 total IP routes from all routing protocols. This includes a BlackDiamond 8000 series switch with an 8500-MSM24, MSM-G8X or MSM-48, and Summit X250e, X450, X450a, X450e, or X650 switches, either in a SummitStack or standalone. Adverse effects can occur with routing tables larger than this, especially when a single network event or CLI command affects a significant number of routes. For example, just after such a network event, the added system load will cause a “save configuration” command to time out.

**Table 38: Supported Limits**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>Access lists (masks)</b> —maximum number of ACL masks per port. <sup>a</sup>	BlackDiamond 8800 original series	16
	Summit X450	16
<b>Access lists (meters)</b> —maximum number of ACL meters.	BlackDiamond 8000 series e-series, group of 24 ports a-series, group of 24 ports c-series	512 1,024 2,048 ingress, 256 egress
	BlackDiamond 8900 c-series 8900-10G24X-c modules, group of 12 ports 8900-G96T-c	1,024 ingress, 256 egress 4,096 ingress, 512 egress
	Summit X150, X250e, X350, X450e, group of 24 ports Summit X450a, group of 24 Summit X480	512 1,024 4,096 ingress, 512 egress
	Summit X650, group of 24 ports	512 ingress, 256 egress
<b>Access lists (policies)</b> —suggested maximum number of lines in a single policy file.	All platforms	300,000
<b>Access lists (policies)</b> —maximum number of rules in a single policy file. <sup>b</sup>	BlackDiamond 8000 series Original series per GigE ports per 10 GigE ports a-series, group of 24 ports c-series, group of 24 ports e-series, group of 24 ports	128 1,016 2,048 4,096 ingress, 512 egress 1,024 ingress
	BlackDiamond 8900 c-series 8900-10G24X-c modules, group of 12 ports 8900-G96T-c modules, group of 48 ports	2,048 ingress, 512 egress 8,192 ingress, 1,024 egress
	BlackDiamond 10808 Summit X150, X250e, X350, X450e group of 24 ports Summit X450	61,440 (up to) 30,000 1,024
	per GigE ports per 10 GigE ports Summit X450a, group of 24 ports Summit X480	128 1,016 2,048 61,440 (up to) <sup>c</sup>
	Summit X650, group of 12 ports	2,048 ingress, 512 egress

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>Access lists (slices)</b> —number of ACL slices.	BlackDiamond 8000 series	
	a- and c-series, group of 48 ports	16
	e-series, group of 24 ports	8
	BlackDiamond 8900 series	
	8900-10G24X-c modules, group of 12 ports	12 ingress, 4 egress
	8900-G96T-c modules, group of 48 ports	16 ingress, 4 egress
	8900 xl-series	17 <sup>c</sup>
	Summit X150, X250e, X350, X450e, group of 48 ports	8
	Summit X450a, group of 24 ports	16
<b>ACL static ingress L2 entries</b> —maximum number of static ACL L2 entries.	Summit X480	17 <sup>c</sup>
	Summit X650, group of 12 ports	12 ingress, 4 egress
	BlackDiamond 20800 series	10,000
	BlackDiamond 20800 series	20,000
	BlackDiamond 20800 series	20,000
	BlackDiamond 20800 series	20,000
	BlackDiamond 20800 series	2,000
	BlackDiamond 20800 series	2,000
	All platforms	16
<b>BGP (aggregates)</b> —maximum number of BGP aggregates.	All platforms with Core license or higher	256
	All platforms (except BlackDiamond 20800 series) with Core license or higher	1,024
<b>BGP (networks)</b> —maximum number of BGP networks.	BlackDiamond 20800 series	2,048

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>BGP (peers)</b> —maximum number of BGP peers.	BlackDiamond 8000 series	256*
	BlackDiamond xl-series	512
	BlackDiamond 10808	
	MSM-1XL	512
	MSM-1	256
	BlackDiamond 12800 series	
	MSM-5, MSM-5R	256*
	MSM-6R	512
	BlackDiamond 20800 series	512
	Summit X450, X450a, X650	128*
	Summit X480	512
	* With default keepalive and hold timers.	
<b>BGP (peer groups)</b> —maximum number of BGP peer groups.	All platforms (except BlackDiamond 8900 series, BlackDiamond 20800 series, and Summit X480) with Core license or higher	64
	BlackDiamond 8900 series	128
	BlackDiamond 20808 series	128
	Summit X480	128
<b>BGP (policy entries)</b> —maximum number of BGP policy entries per route policy.	All platforms with Core license or higher	256
<b>BGP (policy statements)</b> —maximum number of BGP policy statements per route policy.	All platforms with Core license or higher	1,024
<b>BGP (unicast address-family routes)</b> —maximum number of unicast address-family routes (LPM entries is limited to support TCAM entries on a BlackDiamond 10808).	BlackDiamond 8000 series	25,000
	BlackDiamond 8900 xl-series	524,256 (up to) <sup>c</sup>
	BlackDiamond 10808	
	MSM-1XL	1,000,000
	MSM-1	400,000
	BlackDiamond 12800 series	
	MSM-5, MSM-5R	400,000
	MSM-6R	1,000,000
	BlackDiamond 20800 series	512,000
	Summit X450, X450a, X650	25,000
	Summit X480	524,256 (up to) <sup>c</sup>



Table 38: Supported Limits (Continued)

Metric	Product	Limit
<b>BGP (non-unique routes)</b> —maximum number of non-unique BGP routes (LPM entries is limited to support TCAM entries on a BlackDiamond 10808).	BlackDiamond 8000 series	25,000
	BlackDiamond 8900 xl-series	1,000,000
	BlackDiamond 10808	
	MSM-1XL	2,000,000
	MSM-1	900,000
	BlackDiamond 12800 series	
	MSM-5, MSM-5R	900,000
	MSM-6R	2,000,000
	BlackDiamond 20800 series	2,000,000
<b>BGP multicast address-family routes</b> — maximum number of multicast address-family routes.	Summit X450, X450a, X650	25,000
	Summit X480	1,000,000
	BlackDiamond 8000 series	25,000
	BlackDiamond 8900 xl-series	524,256 (up to) <sup>c</sup>
	BlackDiamond 10808	
	MSM-1XL	1,000,000
	MSM-1	450,000
	BlackDiamond 12800 series	
	MSM-5, MSM-5R	450,000
<b>BOOTP/DHCP relay</b> —maximum number of BOOTP or DHCP servers per virtual router.	MSM-6R	1,000,000
	BlackDiamond 20800 series	512,000
	Summit X450, X450a, X650	25,000
	Summit X480	524,256 (up to) <sup>c</sup>
	All platforms	4
	BlackDiamond 8800 c-series	4,096
	BlackDiamond 8900 series	4,096
	Summit X450a, X650	2,048
	Summit X480	4,096
<b>CLEAR-Flow</b> —total number of rules supported. The ACL rules plus CLEAR-Flow rules must be less than the total number of supported ACLs. <b>Note:</b> CLEAR-Flow is not supported on “e” series switches and is only supported in a non-stack configuration in the Summit family of switches.	All platforms	8
<b>Connectivity Fault Management (CFM)</b> —maximum number of CFM domains.	All platforms	4,094
<b>CFM</b> —maximum number of CFM associations.	All platforms	4,094
<b>CFM</b> —maximum number of CFM up end points.	BlackDiamond 8000 series	32
	BlackDiamond 10808	1,000
	BlackDiamond 12800 series	1,000
	BlackDiamond 20800 series	1,000
	Summit series	32

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>CFM</b> —maximum number of CFM down end points.	BlackDiamond 8000 series	32
	BlackDiamond 10808	1,000
	BlackDiamond 12800 series	1,000
	BlackDiamond 20800 series	1,000
	Summit series	32
<b>CFM</b> —maximum number of CFM remote end points per up/down end point.	All platforms	64
<b>CFM</b> —maximum number of dot1ag ports.	All platforms	128
<b>CFM</b> —maximum number of CFM segments.	All platforms	1,000
<b>Dynamic ACLs</b> —maximum number of ACLs processed per second. <b>Note:</b> Limits are load dependent.	BlackDiamond 8800 with c-series MSM and I/O modules	8
	BlackDiamond 8900 series	8
	BlackDiamond 12800 series	12
	Summit X450a, X480, X650	10
	with 50 DACLs with 500 DACLs	5
<b>EAPS domains</b> —maximum number of EAPS domains. <b>Note:</b> An EAPS ring that is being spatially reused cannot have more than four configured EAPS domains.	BlackDiamond 8000 series	64
	BlackDiamond 10808	128
	BlackDiamond 12800 series	128
	BlackDiamond 20800 series	128
	Summit series	32
<b>EAPSV1 protected VLANs</b> —maximum number of protected VLANs.	BlackDiamond 8000 series	2,000
	BlackDiamond 10808	4,000
	BlackDiamond 12800 series	4,000
	BlackDiamond 20800 series	4,000
	Summit series	1,000
<b>EAPSV2 protected VLANs</b> —maximum number of protected VLANs.	BlackDiamond 8000 series	2,000
	BlackDiamond 10808	4,000
	BlackDiamond 12800 series	4,000
	BlackDiamond 20800 series	4,000
	Summit series	500
<b>ELSM (vlan-ports)</b> —maximum number of VLAN ports.	BlackDiamond 8000 series	5,000
	BlackDiamond 10808	5,000
	BlackDiamond 12800 series	5,000
	BlackDiamond 20800 series	5,000
	Summit series	5,000
<b>ESRP groups</b> —maximum number of ESRP groups.	All platforms	7

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>ESRP domains</b> —maximum number of ESRP domains.	BlackDiamond 8000 series	64
	BlackDiamond 8900 series	128
	BlackDiamond 10808	128
	BlackDiamond 12800 series	64
	BlackDiamond 20800 series	128
	Summit series	64
<b>ESRP VLANs</b> —maximum number of ESRP VLANs.	BlackDiamond 8000 series	1,000
	BlackDiamond 8900 series	2,048
	BlackDiamond 10808	3,000
	BlackDiamond 12800 series	3,000
	BlackDiamond 20800 series	3,000
	Summit series	1,000
<b>ESRP (maximum ping tracks)</b> —maximum number of IP route tracks per VLAN.	All platforms	8
<b>ESRP (IP route tracks)</b> —maximum IP route tracks per VLAN.	All platforms	8
<b>ESRP (VLAN tracks)</b> —maximum number of VLAN tracks per VLAN.	All platforms	1
<b>Forwarding rate</b> —maximum L2/L3 software forwarding rate.	BlackDiamond 8000 series	10,000 pps
	BlackDiamond 12800 series	16,000 pps
	Summit series	10,000 pps
<b>FDB (blackhole entries)</b> —maximum number of unicast blackhole FDB entries.	BlackDiamond 8800 original, a-series	16,000
	BlackDiamond 8800 c-series	32,000
	BlackDiamond 8000 e-series	8,000
	BlackDiamond 8900 c-series	32,000
	BlackDiamond 8900 xl-series	524,288 (up to) <sup>c</sup>
	BlackDiamond 20800 series	100,000
	Summit X150, X250e, X350, X450e	8,000
	Summit X450, X450a	16,000
	Summit X480	524,288 (up to) <sup>c</sup>
<b>FDB (blackhole entries)</b> —maximum number of multicast blackhole FDB entries.	Summit X650	32,000
	BlackDiamond 8800 original series	256
	BlackDiamond 8000 series (except BlackDiamond 8800 original series)	1,024
	Summit X450	256
<b>FDB (MAC learning rate)</b> —maximum number of packets per second.	Summit series (except Summit X450 original)	1,024
	BlackDiamond 20800 series	200,000
<b>FDB (maximum L2/L3 entries)</b> —maximum number of MAC addresses/IP host routes.	BlackDiamond 10808	224,000
	BlackDiamond 12800 series	49,000
	BlackDiamond 12800 R-series	224,000

**Table 38: Supported Limits (Continued)**

Metric	Product	Limit
<b>FDB (maximum L2 entries)</b> —maximum number of MAC addresses.	BlackDiamond 8800 original, a-series	16,384
	BlackDiamond 8000 c-series	32,768
	BlackDiamond 8000 e-series	8,192
	BlackDiamond 8000 (system), except 8900 xl-series	128,000
	BlackDiamond 8900 xl-series	524,488 (up to) <sup>c</sup>
	BlackDiamond 20800 series	400,000
	Basic I/O modules	512,000
	Advanced I/O modules	1,049,000
	Summit X150, X350, X250e, X450e	8,192
	Summit X450, X450a	16,384
	Summit X480	524,488 (up to) <sup>c</sup>
	Summit X650	32,768
	SummitStack, except X480	128,000
<b>Hierarchical QoS</b> —maximum number of ingress-only traffic queues per system. (For 20XTR, first 10 ports ranges from 1 to 10 are UNIT-I, second 10 ports ranges from 11 to 20 are UNIT-II, for 10 Gig slot each port is one UNIT.)	BlackDiamond 12800 R-series	20,000
<b>Hierarchical QoS</b> —maximum number of ingress traffic queues with egress shaping allowed per switch.	BlackDiamond 12800 R-series	20,000
<b>Hierarchical QoS</b> —maximum number of egress-only traffic queues allowed per switch.	BlackDiamond 12800 R-series	20,000
<b>Hierarchical QoS</b> —maximum number of traffic queues attach per port.	BlackDiamond 12800 R-series	4,076
	BlackDiamond 20800 series  (This is based on traffic queue mode [strict priority/bandwidth]. This number will decrease the more egress ports are configured.)	1,277/952
<b>IGMP sender</b> —maximum number of IGMP senders per switch (IP multicast compression disabled).	BlackDiamond 8800 original, a-series	1,024
	BlackDiamond 8800 c-series	2,048 <sup>d</sup>
	BlackDiamond 8000 e-series	500 <sup>e</sup>
	BlackDiamond 8900 series	
	8900-10G24X-c modules	2,048 <sup>d</sup>
	8900-G96T-c modules	4,096 <sup>d</sup>
	8900 xl-series	4,096 <sup>d</sup>
	BlackDiamond 10808	15,000
	BlackDiamond 12800 series	15,000
	BlackDiamond 20800 series	3,700
	Summit X150, X250e, X350, X450e	500 <sup>e</sup>
	Summit X450, X450a	1,024
	Summit X480	4,096
	Summit X650	2,048

Table 38: Supported Limits (Continued)

Metric	Product	Limit
<b>IGMP sender</b> —maximum number of IGMP senders per switch (IP multicast compression enabled).	BlackDiamond 8800 original, a-series	2,000 <sup>e</sup>
	BlackDiamond 8800 c-series	6,000 <sup>e</sup>
	BlackDiamond 8000 e-series	500 <sup>e</sup>
	BlackDiamond 8900 series	6,000 <sup>e</sup>
	Summit X150, X250e, X350, X450e	500 <sup>e</sup>
	Summit X450, X450a	2,000 <sup>e</sup>
	Summit X480, X650	6,000 <sup>e</sup>
<b>IGMP snooping per VLAN filters</b> —maximum number of VLANs supported in per-VLAN IGMP snooping mode.	BlackDiamond 8800 original	60
	BlackDiamond 8800 a-series	1,000
	BlackDiamond 8800 c-series	2,000
	BlackDiamond 8000 e-series	448
	BlackDiamond 8900 xl-series	4,000
	Summit X150, X250e, X350, X450e	448
	Summit X450	60
	Summit X450a, X650	1,000
	Summit X480	4,000
<b>IGMPv1/v2 SSM-map entries</b> —maximum number of IGMPv1/v2 SSM mapping entries.	All platforms	500
<b>IGMPv1/v2 SSM-MAP entries</b> —maximum number of sources per group in IGMPv1/v2 SSM mapping entries.	All platforms	50
<b>IGMPv2 subscriber</b> —maximum number of IGMPv2 subscribers per port.	BlackDiamond 8800 original	1,000
	BlackDiamond 8800 c-series	2,000
	BlackDiamond 8900 c-series	2,000
	BlackDiamond 10808	5,000
	BlackDiamond 12800 series	5,000
	BlackDiamond 20800 series	5,000
	Summit series except Summit X480 and X650	1,000
	Summit X480, X650	2,000
<b>IGMPv2 subscriber</b> —maximum number of IGMPv2 subscribers per switch.	BlackDiamond 8800 original	10,000
	BlackDiamond 8800 c-series	20,000
	BlackDiamond 8900 c-series	20,000
	BlackDiamond 10808	30,000
	BlackDiamond 12800 series	30,000
	BlackDiamond 20800 series	30,000
	Summit series except Summit X480 and X650	10,000
	Summit X480, X650	20,000
<b>IGMPv3 maximum source per group</b> —maximum number of source addresses per group.	All platforms	250

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>IGMPv3 subscriber</b> —maximum number of IGMPv3 subscribers per port.	BlackDiamond 8800 original, a-, e-series	1,000
	BlackDiamond 8800 c-series	2,000
	BlackDiamond 8900 series	5,000
	BlackDiamond 10808	5,000
	BlackDiamond 12800 series	5,000
	BlackDiamond 20800 series	5,000
	Summit series	1,000
<b>IGMPv3 subscriber</b> —maximum number of IGMPv3 subscribers per switch.	BlackDiamond 8800 original, a-, e-series	10,000
	BlackDiamond 8800 c-series	20,000
	BlackDiamond 8900 series	30,000
	BlackDiamond 10808	30,000
	BlackDiamond 12800 series	30,000
	BlackDiamond 20800 series	30,000
	Summit series	10,000
<b>IP ARP entries in software</b> —maximum number of IP ARP entries in software.	All platforms (except BlackDiamond 20800 series)	20,480
	BlackDiamond 20800 series	32,000
<b>IPv4 ARP entries in hardware with minimum LPM routes</b> —maximum recommended number of IPv4 ARP entries in hardware, with minimum LPM routes present. For BlackDiamond 8800 and Summit series switches, assumes number of IP route reserved entries is 100 or less.	BlackDiamond 8800 original	2,000 <sup>e</sup>
	BlackDiamond 8800 a-, c-series	8,000
	BlackDiamond 8000 e-series	1,000 <sup>e</sup>
	BlackDiamond 8900 xl-series	16,000
	BlackDiamond 10808	224,000
	BlackDiamond 12800 series	49,000
	BlackDiamond 12800 R-series	224,000
	BlackDiamond 20800 series	32,000
	Summit X250e, X450e	1,000 <sup>e</sup>
	Summit X450	2,000 <sup>e</sup>
	Summit X450a, X650	8,000
	Summit X480	16,000
<b>IPv4 ARP entries in hardware with maximum LPM routes</b> —maximum recommended number of IPv4 ARP entries in hardware, with maximum LPM routes present. For BlackDiamond 8800 and Summit series, assumes number of IP route reserved entries is “maximum.”	BlackDiamond 8800 original, a-series	2,000 <sup>e</sup>
	BlackDiamond 8800 c-series	6,000 <sup>e</sup>
	BlackDiamond 8000 e-series	500 <sup>e</sup>
	BlackDiamond 8900 xl-series	12,000 <sup>e</sup>
	BlackDiamond 10808	224,000
	BlackDiamond 12800 series	49,000
	BlackDiamond 12800 R-series	224,000
	BlackDiamond 20800 series	32,000
	Summit X250e, X450e	500 <sup>e</sup>
	Summit X450, X450a	2,000 <sup>e</sup>
	Summit X480	12,000 <sup>e</sup>
	Summit X650	6,000 <sup>e</sup>

Table 38: Supported Limits (Continued)

Metric	Product	Limit
<b>IPv4 remote hosts in hardware with zero LPM routes</b> —maximum recommended number of IPv4 remote hosts (hosts reachable through a gateway) in hardware when LPM routing is not used. For BlackDiamond 8800 and Summit series, assumes number of IP route reserved entries is 0, and number of IPv4 ARP entries present is 100 or less.	BlackDiamond 8800 original	N/A
	BlackDiamond 8800 a-series	14,000 <sup>e</sup>
	BlackDiamond 8800 c-series	18,000 <sup>e</sup>
	BlackDiamond 8000 e-series	1,000 <sup>e</sup>
	BlackDiamond 8900 xl-series	40,000 <sup>c</sup>
	BlackDiamond 10808	N/A
	BlackDiamond 12800 series	N/A
	BlackDiamond 12800 R-series	N/A
	BlackDiamond 20800 series	N/A
	Summit X250e, X450e	1,000 <sup>e</sup>
	Summit X450	N/A
	Summit X450a	14,000 <sup>e</sup>
	Summit X480	40,000 <sup>c</sup>
	Summit X650	18,000 <sup>e</sup>
<b>IPv4 routes</b> —maximum number of IPv4 routes in software (combination of unicast and multicast routes).	BlackDiamond 8900 xl-series with 8900-MSM-128 or MSM-48c	524,256 (up to) <sup>c</sup>
	All other BlackDiamond 8000 series hardware	25,000
	BlackDiamond 10808	1,000,000
	BlackDiamond 12800 series	1,000,000
	BlackDiamond 20800 series	1,000,000
	Summit X250e, X450, X450a, X450e, X650	
	SummitStack or standalone	25,000
<b>IPv4 routes (LPM entries in hardware)</b> —number of IPv4 routes in hardware.	Summit X480	
	SummitStack or standalone	524,256 (up to) <sup>c</sup>
	BlackDiamond 8800 original	8,000
	BlackDiamond 8800 a-, c-series	12,000
	BlackDiamond 8000 e-series	480
	BlackDiamond 8900 xl-series	524,256 (up to) <sup>c</sup>
	BlackDiamond 10808	256,000
	MSM-1	98,000
	MSM-1XL	229,000
	BlackDiamond 12800 series	
	MSM-5	49,000
	MSM-5R, MSM-6R	229,000
	BlackDiamond 20800 series	512,000
	Summit X250e, X450e	480
	Summit X450	8,000
	Summit X450a, X650	12,000
	Summit X480	524,256 (up to) <sup>c</sup>

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>IPv6 host entries in hardware</b> —maximum number of IPv6 neighbor entries in hardware.	BlackDiamond 8800 a-series	1,000 <sup>e</sup>
	BlackDiamond 8800 c-series	3,000 <sup>e</sup>
	BlackDiamond 8000 e-series	250 <sup>e</sup>
	BlackDiamond 8900 series	
	8900-10G24X-c modules	2,000 <sup>e</sup>
	8900-G96T-c modules	4,000 <sup>e</sup>
	8900 xl-series	4,000 <sup>e</sup>
	BlackDiamond 10808	112,000
	BlackDiamond 12800 series	24,500
	BlackDiamond 12800 R-series	112,000
	Summit X250e, X450e	250 <sup>e</sup>
	Summit X450a	1,000 <sup>e</sup>
	Summit X480	4,000 <sup>e</sup>
	Summit X650	2,000 <sup>e</sup>
<b>IPv6 routes (LPM entries in hardware)</b> —maximum number of IPv6 routes in hardware.	BlackDiamond 8800 a-, c-series	6,000
	BlackDiamond 8000 e-series	240
	BlackDiamond 8900 xl-series	8,000
	BlackDiamond 10808	114,500
	BlackDiamond 12800 series	114,500
	Summit X250e, X450e	240
	Summit X450a, X650	6,000
	Summit X480	8,000
<b>IPv6 routes with a mask greater than 64 bits in hardware</b> —maximum number of such IPv6 LPM routes in hardware.	BlackDiamond 8000 a-, c-, e-, xl-series	256
	BlackDiamond 10808	114,500
	BlackDiamond 12800 series	114,500
	Summit X250e, X450e, X450a, X650, X480	256
<b>IP router interfaces</b> —maximum number of VLANs performing IP routing—excludes sub VLANs (IPv4 and IPv6 interfaces).	All BlackDiamond 8000 series and Summit family switches with Edge license or higher	512
	All other BlackDiamond platforms	4,096
<b>IP multicast static routes</b> —maximum number of permanent multicast IP routes.	All platforms	1,024
<b>IP unicast static routes</b> —maximum number of permanent IP unicast routes.	All platforms	1,024
<b>IP route sharing (maximum gateways)</b> —configurable maximum number of configurable gateways used by equal cost multipath OSPF, BGP, or static routes.	BlackDiamond 8000 series	2, 4, or 8
	Summit series	2, 4, or 8



Table 38: Supported Limits (Continued)

Metric	Product	Limit
IP route sharing (total destinations)— maximum number of unique destinations used by multipath OSPF, OSPFv3, BGP, IS-IS, or static routes. OSPFv3 only applies to BlackDiamond 10808 and BlackDiamond 12800 series, which support ECMP for IPv6.	BlackDiamond 8800 original	
	default maximum gateways of 4	512
	if maximum gateways is 2	1,024
	if maximum gateways is 8	256
	BlackDiamond 8800 a-series, c-series	
	with up to 8 gateways per destination	12,256
	BlackDiamond 8000 e-series	
	with up to 8 gateways per destination	480
	BlackDiamond 8900 xl-series	
	with up to 8 gateways per destination	524,256 (up to) <sup>c</sup>
	BlackDiamond 10808	
	with up to 8 gateways per destination	7,136
	BlackDiamond 12800 series	
	with up to 8 gateways per destination	7,136
	BlackDiamond 20800 series	
	with up to 8 gateways per destination	512,000
Summit X250e, X450e	Summit X250e, X450e	
	with up to 8 gateways per destination	480
	Summit X450	
	default maximum gateways of 4	512
	if maximum gateways is 2	1,024
	if maximum gateways is 8	256
	Summit X450a, X650	
	with up to 8 gateways per destination	12,256
	Summit X480	
	with up to 8 gateways per destination	524,256 (up to) <sup>c</sup>

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>IP route sharing (total combinations of gateway sets)</b> —maximum number of combinations of sets of adjacent gateways used by multipath OSPF, BGP, IS-IS, or static routes.	BlackDiamond 8800 a-series default maximum gateways of 4 if maximum gateways is 2 if maximum gateways is 8	510 1,022 254
	BlackDiamond 8000 e-series default maximum gateways of 4 if maximum gateways is 2 if maximum gateways is 8	30 62 14
	BlackDiamond 8800 c-series default maximum gateways of 4 if maximum gateways is 2 if maximum gateways is 8	510 1,022 254
	BlackDiamond 8900 xl-series default maximum gateways of 4 if maximum gateways is 2 if maximum gateways is 8	510 1,022 254
	BlackDiamond 20800 series with up to 8 gateways per set	60
	Summit X480, X650 default maximum gateways of 4 if maximum gateways is 2 if maximum gateways is 8	510 1,022 254
<b>IP multinetting (secondary IP addresses)</b> —maximum number of secondary IP addresses per VLAN.	All platforms	64
<b>IS-IS adjacencies</b> —maximum number of supported IS-IS adjacencies.	BlackDiamond 8000 series	128
	BlackDiamond 8900 xl-series	255
	BlackDiamond 10808	255
	BlackDiamond 12800 series	255
	BlackDiamond 20800 series	255
	Summit X450, X450a, X480, X650	128
<b>IS-IS ECMP</b> —maximum number of equal cost multipath for IS-IS.	BlackDiamond 8000 series	2, 4, or 8
	BlackDiamond 10808	8
	BlackDiamond 12800 series	8
	BlackDiamond 20800 series	8
	All Summit series	2, 4, or 8
<b>IS-IS interfaces</b> —maximum number of interfaces that can support IS-IS.	All platforms	255
<b>IS-IS routers in an area</b> —recommended maximum number of IS-IS routers in an area.	Summit X480	128
	All other platforms	256

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>IS-IS route origination</b> —recommended maximum number of routes that can be originated by an IS-IS node.	BlackDiamond 8000 series	20,000
	BlackDiamond 8900 xl-series	30,000
	BlackDiamond 10808	30,000
	BlackDiamond 12800 series	30,000
	BlackDiamond 20800 series	30,000
	Summit X450, X450a	5,000
	SUmmit X480	30,000
	Summit X650	20,000
<b>IS-IS IPv4 L1 routes in an L1 router</b> —recommended maximum number of IS-IS Level 1 routes in a Level 1 IS-IS router.	BlackDiamond 8000 series	25,000
	BlackDiamond 8900 xl-series	120,000
	BlackDiamond 10808	
	MSM-1	120,000
	MSM-1XL	180,000
	BlackDiamond 12800 series	
	MSM-5	100,000
	MSM-5R	120,000
	MSM-6R	180,000
	BlackDiamond 20800 series	120,000
	Summit X450, X450a	5,000
	Summit X480	50,000
	Summit X650	25,000
<b>IS-IS IPv4 L2 routes</b> —recommended maximum number of IS-IS Level 2 routes.	BlackDiamond 8000 series	25,000
	BlackDiamond 8900 xl-series	120,000
	BlackDiamond 10808	
	MSM-1	120,000
	MSM-1XL	180,000
	BlackDiamond 12800 series	
	MSM-5	100,000
	MSM-5R	120,000
	MSM-6R	180,000
	BlackDiamond 20800 series	120,000
	Summit X450, X450a	5,000
	Summit X480	50,000
	Summit X650	25,000

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>IS-IS IPv4 L1 routes in an L1/L2 router</b> —recommended maximum number of IS-IS Level 1 routes in an L1/L2 IS-IS router.	BlackDiamond 8000 series	20,000
	BlackDiamond 8900 xl-series	20,000
	BlackDiamond 10808	
	MSM-1	20,000
	MSM-1XL	25,000
	BlackDiamond 12800 series	
	MSM-5, MSM-5R	20,000
	MSM-6R	25,000
	BlackDiamond 20800 series	20,000
<b>IS-IS IPv6 L1 routes in an L1 router</b> —recommended maximum number of IS-IS Level 1 routes in a Level 1 IS-IS router.	Summit X450, X450a	3,000
	Summit X480, X650	20,000
	BlackDiamond 8000 series	10,000
	BlackDiamond 8900 xl-series	40,000
	BlackDiamond 10808	
	MSM-1	30,000
	MSM-1XL	65,000
	BlackDiamond 12800 series	
	MSM-5	30,000
<b>IS-IS IPv6 L2 routes</b> —recommended maximum number of IS-IS Level 2 routes.	MSM-5R	40,000
	MSM-6R	65,000
	BlackDiamond 20800 series	40,000
	Summit X450, X450a	5,000
	Summit X480	25,000
	Summit X650	10,000
	BlackDiamond 8000 series	10,000
	BlackDiamond 8900 xl-series	40,000
	BlackDiamond 10808	
<b>IS-IS IPv6 L2 routes</b> —recommended maximum number of IS-IS Level 2 routes.	MSM-1	30,000
	MSM-1XL	65,000
	BlackDiamond 12800 series	
	MSM-5	30,000
	MSM-5R	40,000
	MSM-6R	65,000
	BlackDiamond 20800 series	40,000
	Summit X450, X450a	5,000
	Summit X480	25,000
	Summit X650	10,000

Table 38: Supported Limits (Continued)

Metric	Product	Limit
<b>IS-IS IPv6 L1 routes in an L1/L2 router</b> —recommended maximum number of IS-IS Level 1 routes in a L1/L2 router.	BlackDiamond 8000 series	10,000
	BlackDiamond 8900 xl-series	15,000
	BlackDiamond 10808	
	MSM-1	15,000
	MSM-1XL	25,000
	BlackDiamond 12800 series	
	MSM-5, MSM-5R	15,000
	MSM-6R	25,000
	BlackDiamond 20800 series	15,000
	Summit X450, X450a	3,000
<b>IS-IS IPv4/IPv6 L1 routes in an L1 router</b> —recommended maximum number of IS-IS Level 1 routes in a Level 1 IS-IS router. The numbers documented are based on 50% IPv4 routes and 50% IPv6 routes.	Summit X480	15,000
	Summit X650	10,000
	BlackDiamond 8000 series	20,000
	BlackDiamond 8900 xl-series	60,000
	BlackDiamond 10808	
	MSM-1	60,000
	MSM-1XL	130,000
	BlackDiamond 12800 series	
	MSM-5	30,000
	MSM-5R	60,000
<b>IS-IS IPv4/IPv6 L2 routes in an L2 router</b> —recommended maximum number of IS-IS Level 2 routes in a Level 2 IS-IS router. The numbers documented are based on 50% IPv4 routes and 50% IPv6 routes.	MSM-6R	130,000
	BlackDiamond 20800 series	60,000
	Summit X450, X450a	5,000
	Summit X480	40,000
	Summit X650	20,000
	BlackDiamond 8000 series	20,000
	BlackDiamond 8900 xl-series	60,000
	BlackDiamond 10808	
	MSM-1	60,000
	MSM-1XL	130,000
	BlackDiamond 12800 series	
	MSM-5	30,000
	MSM-5R	60,000
	MSM-6R	130,000
	BlackDiamond 20800 series	60,000
	Summit X450, X450a	5,000
	Summit X480	40,000
	Summit X650	20,000

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>IS-IS IPv4/IPv6 L1 routes in an L1/L2 router</b> —recommended maximum number of IS-IS Level 1 routes in a Level 1/Level2 IS-IS router. The numbers documented are based on 50% IPv4 routes and 50% IPv6 routes.	BlackDiamond 8000 series	20,000
	BlackDiamond 8900 xl-series	20,000
	BlackDiamond 10808	20,000
	BlackDiamond 12800 series	20,000
	BlackDiamond 20800 series	20,000
	Summit X450, X450a	3,000
	Summit X480, X650	20,000
<b>Jumbo frames</b> —maximum size supported for jumbo frames, including the CRC.	All platforms	9,216
<b>Load-sharing groups</b> —maximum number of load share groups.  <b>Note:</b> The actual number of load-share groups that can be configured is limited by the number of physical ports present in the switch or SummitStack.	BlackDiamond 8000 series	
	with 10G4X	32
	without 10G4X	128
	BlackDiamond 10808	128
	BlackDiamond 12800 series	128
	BlackDiamond 20800 series	128
	Summit X150, X250e, X350, X450a, X450e, X480, X650	128
	Summit X450	32
	SummitStack	
	with Summit X450-24t	32
<b>Load sharing</b> —maximum number of ports per load share group.	with Summit X450-24x	32
	without Summit X450-24t	128
	without Summit X450-24x	128
	BlackDiamond 8000 series	8
	BlackDiamond 10808	16
<b>Logged messages</b> —maximum number of messages logged locally on the system.	BlackDiamond 12800 series	16
	BlackDiamond 20800 series	16
	Summit series	8
	All platforms	20,000
	All platforms	1,024
<b>MAC-based security</b> —maximum number of MAC-based security policies.	BlackDiamond 10808	100,000
	BlackDiamond 12800 series	100,000
<b>MAC-in-MAC</b> —maximum number of regular VLANs (VLAN, vMAN, BVLAN).	BlackDiamond 10808	4,000
	BlackDiamond 12800 series	4,000
<b>MAC-in-MAC</b> —maximum number of SVLANs.	BlackDiamond 10808 (1G DRAM)	2,000
	BlackDiamond 12800 series (512 DRAM)	2,000
<b>MAC-in-MAC</b> —maximum number of BVLANs.	BlackDiamond 20800 series	
	per GigE ports	16
	per 10 GigE ports	160

Table 38: Supported Limits (Continued)

Metric	Product	Limit
<b>Mirroring (filters)</b> —maximum number of mirroring filters.	All platforms	16
<b>Mirroring (monitor port)</b> —maximum number of monitor ports.	All platforms	1
<b>Mirroring, one-to-many (filters)</b> —maximum number of one-to-many mirroring filters.	All platforms	16
<b>Mirroring, one-to-many (monitor port)</b> —maximum number of one-to-many monitor ports.	All platforms	16
<b>MPLS LDP enabled interfaces</b> —maximum number of MPLS LDP configured interfaces per switch.	BlackDiamond 10808	32
	BlackDiamond 12800 R-series	32
	BlackDiamond 20800 series	50
	Summit X480	32
<b>MPLS LDP peers</b> —maximum number of MPLS LDP peers per switch.	BlackDiamond 10808	32
	BlackDiamond 12800 R-series	32
	BlackDiamond 20800 series	64
	Summit X480	32
<b>MPLS LDP adjacencies</b> —maximum number of MPLS LDP adjacencies per switch.	BlackDiamond 10808	64
	BlackDiamond 12800 series	64
	BlackDiamond 20800 series	64
	Summit X480	50
<b>MPLS LDP ingress LSPs</b> —maximum number of MPLS LSPs that can originate from a switch.  * <b>Note:</b> The maximum number of ingress LSPs is reduced by one for each transit LSP, that is, If 16,000 transit LSPs are in use, the maximum number of ingress LSPs is 16,000.	BlackDiamond 10808	40,000
	BlackDiamond 12800 R-series	30,000
	BlackDiamond 20800 series	32,000*
	Summit X480	4,000
<b>MPLS LDP transit LSPs</b> —maximum number of MPLS transit LSPs per switch.	BlackDiamond 10808	40,000
	BlackDiamond 12800 R-series	30,000
	BlackDiamond 20800 series	16,000
	Summit X480	4,000
<b>MPLS LDP egress LSPs</b> —maximum number of MPLS egress LSPs that can terminate on a switch.	BlackDiamond 10808	40,000
	BlackDiamond 12800 R-series	30,000
	BlackDiamond 20800 series	32,000
	Summit X480	8,000
<b>MPLS static LSPs</b> —maximum number of static LSPs.	BlackDiamond 10808	1,000
	BlackDiamond 12800 R-series	1,000
	BlackDiamond 20800 series	100
	Summit X480	10

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>MSDP active peers</b> —maximum number of active MSDP peers.	BlackDiamond 8000 series	32
	BlackDiamond 8900 series	64
	BlackDiamond 10808	32
	BlackDiamond 12800 series	32
	BlackDiamond 20800 series	64
	Summit X450, X480, X650	16
<b>MSDP SA cache entries</b> —maximum number of entries in SA cache.	BlackDiamond 8000 series	16,000
	BlackDiamond 8900 series	16,000
	BlackDiamond 10808	16,000
	BlackDiamond 12800 series	16,000
	BlackDiamond 20800 series	15,000
	Summit X450, X480, X650	8,000
<b>MSDP maximum mesh groups</b> —maximum number of MSDP mesh groups.	BlackDiamond 8000 series	8
	BlackDiamond 8900 series	16
	BlackDiamond 10808	8
	BlackDiamond 12800 series	8
	BlackDiamond 20800 series	16
	Summit X450, X480, X650	4
<b>Multicast VLAN registration (MVR)</b> —maximum number of MVR senders per switch (IP multicast compression disabled).	BlackDiamond 8800 original, a-series	1,024
	BlackDiamond 8800 c-series	2,048 <sup>d</sup>
	BlackDiamond 8000 e-series	500 <sup>e</sup>
	BlackDiamond 8900 series	
	8900-10G24X-c modules	2,048 <sup>d</sup>
	8900-G96T-c modules	4,096 <sup>d</sup>
	8900 xl-series	4,096 <sup>d</sup>
	BlackDiamond 10808	15,000
	BlackDiamond 12800 series	15,000
	BlackDiamond 20800 series	3,700
	Summit X150, X250, X350, X450e	500 <sup>e</sup>
	Summit X450, X450a	1,024
	Summit X480	4,096
	Summit X650	2,048
<b>Multicast VLAN registration (MVR)</b> —maximum number of MVR senders per switch (IP multicast compression enabled).	BlackDiamond 8800 original, a-series	2,000 <sup>e</sup>
	BlackDiamond 8800 c-series	6,000 <sup>e</sup>
	BlackDiamond 8000 e-series	500 <sup>e</sup>
	BlackDiamond 8900 series	6,000 <sup>e</sup>
	Summit X150, X250e, X350, X450e	500 <sup>e</sup>
	Summit X450, X450a	2,000 <sup>e</sup>
	Summit X480, X650	6,000 <sup>e</sup>



**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>Network Login</b> —maximum number of clients being authenticated on MAC-based VLAN enabled ports.	BlackDiamond 8000 series (clients per module/per system)	1,024
	BlackDiamond 12804 (per system)	4,000
	Summit series	1,024
<b>Network Login</b> —maximum number of dynamic VLANs.	All platforms (except the BlackDiamond 20800 series)	2,000
<b>OSPF adjacencies</b> —maximum number of supported OSPF adjacencies.	BlackDiamond 8000 series	128
	BlackDiamond 8900 xl-series	255
	BlackDiamond 10808	255
	BlackDiamond 12800 series	255
	BlackDiamond 20800 series	255
	Summit X250e, X450, X650	128
	Summit X480	255
<b>OSPF areas</b> —as an ABR, how many OSPF areas are supported within the same switch.	All platforms	8
<b>OSPF ECMP</b> —maximum number of equal cost multipath OSPF.	BlackDiamond 8000 series	2, 4, or 8
	BlackDiamond 10808	8
	BlackDiamond 12800 series	8
	BlackDiamond 20800 series	8
	All Summit Series	2, 4, or 8
<b>OSPF external routes</b> —recommended maximum number of external routes contained in an OSPF LSDB without too many other types of OSPF routes.	BlackDiamond 8000 series	20,000
	BlackDiamond 8900 xl-series	130,000
	BlackDiamond 10808	130,000
	BlackDiamond 12800 series	130,000
	BlackDiamond 20800 series	130,000
	Summit X250e, X450, X450a, X650	5,000
	Summit X480	130,000
<b>OSPF inter- or intra-area routes</b> —recommended maximum number of inter- or intra-area routes contained in an OSPF LSDB without too many other types of OSPF routes, with one ABR in OSPF domain.	BlackDiamond 8000 series	7,000
	BlackDiamond 8900 xl-series	7,000
	BlackDiamond 10808	7,000
	BlackDiamond 12800 series	7,000
	BlackDiamond 20800 series	7,000
	Summit X250e, X450, X450a, X650	2,000
	Summit X480	7,000
<b>OSPF routers in a single area</b> —recommended maximum number of routers in a single OSPF area.	BlackDiamond 8000 series	100
	BlackDiamond 8900 xl-series	200
	BlackDiamond 10808	200
	BlackDiamond 12800 series	100
	BlackDiamond 20800 series	200
	Summit X250e, X450, X450a, X650	50
	Summit X480	200

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>OSPF subnets on a single router</b> —recommended maximum number of OSPF routed subnets on a switch.	All platforms with Core license or higher	400
<b>OSPF virtual links</b> —maximum number of supported OSPF virtual links.	All platforms with Core license or higher	32
<b>OSPFv2 links</b> —maximum number of links in the router LSA.	All platforms	419
<b>OSPFv3 areas</b> —as an ABR, the maximum number of supported OSPFv3 areas.	All platforms with Core license or higher	16
<b>OSPFv3 interfaces</b> —maximum number of OSPFv3 interfaces.	BlackDiamond 8000 series	256
	BlackDiamond 8900 xl-series	384
	BlackDiamond 10808	384
	BlackDiamond 12800 series	256
	BlackDiamond 20800 series	384
	Summit X450, X450a, X650	128
	Summit X480	384
<b>OSPFv3 active interfaces</b> —maximum number of OSPFv3 active interfaces.	All platforms with Advanced Edge license	4
<b>OSPFv3 neighbors</b> —maximum number of OSPFv3 neighbors.	BlackDiamond 8000 series	64
	BlackDiamond 8900 xl-series	128
	BlackDiamond 10808	128
	BlackDiamond 12800 series	128
	BlackDiamond 20800 series	128
	Summit X450, X450a, X650	64
	Summit X480	128
<b>OSPFv3 virtual links</b> —maximum number of OSPFv3 virtual links supported.	All platforms with Core license or higher	16
<b>OSPFv3 external routes</b> —recommended maximum number of external routes.	BlackDiamond 8000 series	10,000
	BlackDiamond 8900 xl-series	60,000
	BlackDiamond 10808	60,000
	BlackDiamond 12800 series	50,000
	BlackDiamond 20800 series	60,000
	Summit X450, X450a, X650	10,000
	Summit X480	60,000
<b>OSPFv3 inter- or intra-area routes</b> —recommended maximum number of inter- or intra-area routes.	BlackDiamond 8000 series	6,000
	BlackDiamond 8900 xl-series	6,000
	BlackDiamond 10808	6,000
	BlackDiamond 12800 series	6,000
	BlackDiamond 20800 series	6,000
	Summit X450, X450a, X650	3,000
	Summit X480	6,000

Table 38: Supported Limits (Continued)

Metric	Product	Limit
<b>PIM snooping</b> —maximum number of (S,G) entries programmed in the hardware (IP multicast compression disabled).	BlackDiamond 8800 original	1,024
	BlackDiamond 8800 c-series	2,048 <sup>d</sup>
	BlackDiamond 8000 e-series	500 <sup>d</sup>
	BlackDiamond 8900 series	
	8900-10G24X-c modules	2,048 <sup>d</sup>
	8900-G96T-c modules	4,096 <sup>d</sup>
	8900 xl-series	4,096 <sup>d</sup>
	BlackDiamond 10808	15,000
	BlackDiamond 12800 series	15,000
	BlackDiamond 20800 series	3,700
	Summit X150, X250e, X350, X450e	500 <sup>e</sup>
	Summit X450, X450a	1,024
	Summit X480	4,096
	Summit X650	2,048
<b>PIM snooping</b> —maximum number of (S,G) entries programmed in the hardware (IP multicast compression enabled).	BlackDiamond 8800 original, a-series	2,000 <sup>e</sup>
	BlackDiamond 8800 c-series	6,000 <sup>e</sup>
	BlackDiamond 8000 e-series	500 <sup>e</sup>
	BlackDiamond 8900 series	6,000 <sup>e</sup>
	Summit X150, X250e, X350, X450e	500 <sup>e</sup>
	Summit X450, X450a	2,000 <sup>e</sup>
	Summit X480, X650	6,000 <sup>e</sup>
<b>PIM—maximum routes</b> —maximum number of (S,G) entries installed in the hardware (IP multicast compression disabled).	BlackDiamond 8800 original	1,024
	BlackDiamond 8800 c-series	2,048 <sup>d</sup>
	BlackDiamond 8000 e-series	500 <sup>e</sup>
	BlackDiamond 8900 series	
	8900-10G24X-c modules	2,048 <sup>d</sup>
	8900-G96T-c modules	4,096 <sup>d</sup>
	8900 xl-series	4,096 <sup>d</sup>
	BlackDiamond 10808	12,000
	BlackDiamond 12800 series	12,000
	BlackDiamond 20800 series	3,700
	Summit X150, X250e, X350, X450e	500 <sup>e</sup>
	Summit X450, X450a	1,024
	Summit X480	4,096
	Summit X650	2,048

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>PIM—maximum routes</b> —maximum number of (S,G) entries installed in the hardware (IP multicast compression enabled).	BlackDiamond 8800 original, a-series	2,000 <sup>e</sup>
	BlackDiamond 8800 c-series	6,000 <sup>e</sup>
	BlackDiamond 8000 e-series	500 <sup>e</sup>
	BlackDiamond 8900 series	6,000 <sup>e</sup>
	Summit X150, X250e, X350, X450e	500 <sup>e</sup>
	Summit X450, X450a	1,024
	Summit X480	6,000 <sup>e</sup>
	Summit X650	2,048
<b>PIM-SSM (maximum SSM routes)</b> —maximum number of (S,G) entries installed in the hardware with PIM SSM configuration (IP multicast compression disabled).	BlackDiamond 8800 original	1,024
	BlackDiamond 8800 c-series	2,048 <sup>d</sup>
	BlackDiamond 8000 e-series	500 <sup>e</sup>
	BlackDiamond 8900 series	
	8900-10G24X-c modules	2,048 <sup>d</sup>
	8900-G96T-c modules	4,096 <sup>d</sup>
	8900 xl-series	15,000
	BlackDiamond 10808	15,000
	BlackDiamond 12800 series	4,096 <sup>d</sup>
	BlackDiamond 20800 series	3,700
	Summit X150, X250e, X350, X450e	500 <sup>e</sup>
	Summit X450, X450a	1,024
	Summit X480	4,096
	Summit X650	2,048
<b>PIM-SSM (maximum SSM routes)</b> —maximum number of (S,G) entries installed in the hardware with PIM SSM configuration (IP multicast compression enabled).	BlackDiamond 8800 original, a-series	2,000 <sup>e</sup>
	BlackDiamond 8800 c-series	6,000 <sup>e</sup>
	BlackDiamond 8000 e-series	500 <sup>e</sup>
	BlackDiamond 8900 series, xl-series	6,000 <sup>e</sup>
	Summit X150, X250e, X350, X450e	500 <sup>e</sup>
	Summit X450, X450a	2,000 <sup>e</sup>
	Summit X480, X650	6,000 <sup>e</sup>
<b>PIM (maximum interfaces)</b> —maximum number of PIM active interfaces.	All platforms	256
<b>PIM (maximum interfaces)</b> —maximum number of PIM snooping enabled interfaces.	All platforms	256
<b>Policy-based routing (PBR) redundancy</b> —maximum number of flow-redirect and nexthops per each flow-direct.	All platforms	32

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>Private VLANs</b> —maximum number of subscribers. Assumes a minimum of one port per network and subscriber VLAN.	BlackDiamond 8800 a-, c-, e-, xl-series with eight modules of 48 ports 8900-G96T-c modules	383 767
	BlackDiamond 10808	1,400
	BlackDiamond 12800 series	1,400
	Summit X450a, X450e, 24 ports with two-port option cards without option cards	25 23
	Summit X450a, X450e, 48 ports with two-port option cards without option cards	49 47
	Summit X480	47
	Summit X650	23
<b>Private VLANs</b> —maximum number of private VLANs with an IP address on the network VLAN.	All platforms	512
<b>Private VLANs</b> —maximum number of private VLANs in an L2-only environment.	BlackDiamond 8800 a-, c-, e-series	384
	BlackDiamond 8900 series	2,046
	BlackDiamond 10808	2,046
	BlackDiamond 12800 series	2,046
	Summit X250e, X450a, X450e	384
	Summit X480, X650	2,046
<b>Provider Backbone Bridging (PBB) Service and Customer VLANs</b> —maximum number of service and customer VLANs	BlackDiamond 20800 series	4,000
<b>PBB Backbone VLANs</b> —maximum number of backbone VLANs.	BlackDiamond 20800 series	2,000
<b>PBB ISIDs</b> —maximum number of ISIDs. Range is 256 to 330,221,	BlackDiamond 20800 series	4,000
<b>PBB Backbone Edge Bridges (BEBs) in a PBB Network</b> —maximum number of BEBs in a PBB network.	BlackDiamond 20800 series	256
<b>PBB MAC Binding Entries</b> —maximum number of MAC-binding entries.	BlackDiamond 20800 series	400,000
<b>PBB-Traffic Engineering (PBB-TE)</b> —maximum number of static MAC binding entries.	BlackDiamond 10808	
	MSM-1 MSM-1XL	98,000 100,000
	BlackDiamond 12800 series	
	MSM-5 MSM-5R MSM-6R	49,000 100,000 100,000
<b>Route policies</b> —suggested maximum number of lines in a route policy file.	All platforms	10,000

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>RIP-learned routes</b> —maximum number of RIP routes supported without aggregation.	BlackDiamond 8000 series	10,000
	BlackDiamond 8900 xl-series	10,000
	BlackDiamond 10808	10,000
	BlackDiamond 20800 series	10,000
	Summit X250e, X450, X450a	3,000
	Summit X480, X650	10,000
<b>RIP interfaces on a single router</b> —recommended maximum number of RIP routed interfaces on a switch.	BlackDiamond 8000 series	256
	BlackDiamond 8900 xl-series	384
	BlackDiamond 10808	384
	BlackDiamond 20800 series	384
	Summit X250e, X450, X450a	128
	Summit X480	384
<b>RIPng learned routes</b> —maximum number of RIPng routes.	Summit X650	256
	BlackDiamond 8000 series	3,000
	BlackDiamond 8900 xl-series	5,000
	BlackDiamond 10808	5,000
	BlackDiamond 12800 series	5,000
	BlackDiamond 20800 series	5,000
	Summit X250e, X450, X450a	1,500
	Summit X480	5,000
<b>RSVP-TE interfaces</b> —maximum number of interfaces.	Summit X650	3,000
	BlackDiamond 10808	32
	BlackDiamond 12800 R-series	32
	BlackDiamond 20800 series	64
<b>RSVP-TE ingress LSPs</b> —maximum number of ingress LSPs.	Summit X480	32
	BlackDiamond 10808	2,000
	BlackDiamond 12800 R-series	2,000
	BlackDiamond 20800 series	2,000
<b>RSVP-TE egress LSPs</b> —maximum number of egress LSPs.	Summit X480	2,000
	BlackDiamond 10808	4,000
	BlackDiamond 12800 R-series	4,000
	BlackDiamond 20800 series	4,000
<b>RSVP-TE transit LSPs</b> —maximum number of transit LSPs.	Summit X480	2,000
	BlackDiamond 10808	2,000
	BlackDiamond 12800 R-series	1,500
	BlackDiamond 20800 series	2,000
<b>RSVP-TE paths</b> —maximum number of paths.	Summit X480	2,000
	BlackDiamond 10808	1,000
	BlackDiamond 12800 R-series	1,000
	BlackDiamond 20800 series	1,000
<b>RSVP-TE paths</b> —maximum number of paths.	Summit X480	1,000
	BlackDiamond 10808	1,000
	BlackDiamond 12800 R-series	1,000
	BlackDiamond 20800 series	1,000

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>RSVP-TE profiles</b> —maximum number of profiles.	BlackDiamond 10808	1,000
	BlackDiamond 12800 R-series	1,000
	BlackDiamond 20800 series	1,000
	Summit X480	1,000
<b>RSVP-TE EROs</b> —maximum number of EROs per path.	BlackDiamond 10808	64
	BlackDiamond 12800 R-series	64
	BlackDiamond 20800 series	64
	Summit X480	64
<b>Spanning Tree (maximum STPDs)</b> —maximum number of Spanning Tree Domains on port mode EMISTP.	All platforms	64
<b>Spanning Tree PVST</b> —maximum number of port mode PVST domains.	All platforms (except BlackDiamond 20800 series)	128
	BlackDiamond 20800 series	256
<b>Spanning Tree</b> —maximum number of multiple spanning tree instances (MSTI) domains.	All platforms	64
<b>Spanning Tree</b> —maximum number of VLANs per MSTI.	All platforms	500
<b>Spanning Tree</b> —maximum number of VLANs on all MSTP instances.	All platforms (except BlackDiamond 20800 series)	1,000
	BlackDiamond 20800 series	1,024
<b>Spanning Tree (802.1d domains)</b> —maximum number of 802.1d domains per port.	All platforms	1
<b>Spanning Tree (number of ports)</b> —maximum number of ports including all Spanning Tree domains.	All platforms	2,048
<b>Spanning Tree (maximum VLANs)</b> —maximum number of STP protected VLANs (dot1d and dot1w).	BlackDiamond 8900 series	1,024
	BlackDiamond 20800 series	1,024
	All other platforms	560
<b>SSH (number of sessions)</b> —maximum number of simultaneous SSH sessions.	All platforms	8
<b>Static MAC multicast FDB entries</b> —maximum number of permanent multicast MAC entries configured into the FDB.	BlackDiamond 8800 original series	256
	BlackDiamond 8000 a-, c-, e-, xl-series	1,024
	BlackDiamond 10808	1,024
	BlackDiamond 12800 series	1,024
	Summit X150, X350, X250e, X450a, X450e, X480, X650	1,024
	Summit X450	256
<b>Syslog servers</b> —maximum number of simultaneous syslog servers that are supported.	All platforms	4

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>TCAM entries</b> —amount of entries available in the lookup tables for Longest Prefix Match routing lookups, learned MAC address, and ACLs.	BlackDiamond 10808, MSM-1	128,000
	BlackDiamond 10808, MSM-1XL	256,000
	BlackDiamond 12800 series	49,000
	BlackDiamond 12800 R-series	229,000
	BlackDiamond 20800 series	128,000
<b>Telnet (number of sessions)</b> —maximum number of simultaneous Telnet sessions.	All platforms	8
<b>Virtual routers</b> —number of user virtual routers that can be created on a switch.	BlackDiamond 8000 c-series	64
	BlackDiamond 8900 xl-series	8
	BlackDiamond 10808	8
	BlackDiamond 12800 series	8
	BlackDiamond 20800 series	8
	Summit X480, X650	8
<b>VLAN aggregation</b> —maximum number of port-VLAN combinations on any one super VLAN and all of its sub VLANs.	All platforms	1,000
<b>VLANs</b> —includes all VLANs.	All platforms	4,094
<b>VLANs</b> —maximum number of virtual ports.	BlackDiamond 12804	50,029
	BlackDiamond 20800 series	50,029
<b>VLANs (Layer 2)</b> —maximum number of Layer 2 VLANs.	All platforms	4,094
<b>VLANs (Layer 3)</b> —maximum number of Layer 3 VLANs.	All platforms	512
<b>VLANs (maximum active port-based)</b> —number of simultaneously active port-based VLANs.	All platforms	4,094
<b>VLANs (maximum active protocol-sensitive filters)</b> —number of simultaneously active protocol filters in the switch.	All platforms	15
<b>VLAN translation</b> —maximum number of translation VLANs. Assumes a minimum of one port per translation and member VLAN.	BlackDiamond 8000 a-, c-, e-, xl-series	
	with eight modules of 48 ports	383
	8900-G96T-c modules	767
	BlackDiamond 10808	1,400
	BlackDiamond 12800 series	1,400
	Summit X450a and X450e, group of 24 ports	
	with two-port option cards	25
	without option cards	23
	Summit X450a and X450e, group of 48 ports	
	with two-port option cards	49
	without option cards	47
	Summit X480, group of 24 ports	23
	Summit X480, group of 48 ports	46
	Summit X650	23



Table 38: Supported Limits (Continued)

Metric	Product	Limit
<b>VLAN translation</b> —maximum number of translation VLAN pairs with an IP address on the translation VLAN.	All platforms	512
<b>VLAN translation</b> —maximum number of translation VLAN pairs in an L2-only environment.	BlackDiamond 8800 a-, c-, e-series BlackDiamond 8900 xl-series BlackDiamond 10808 BlackDiamond 12800 series Summit X250e, X450a, X450e Summit X480, X650	384 2,046 2,046 2,046 384 2,046
<b>vMAN (maximum ACL rules for vMAN)</b> —maximum number of ACL rules for vMAN.	BlackDiamond 10808 BlackDiamond 12800 series	4,000 4,000
<b>vMAN (0x8100 ethertype vMANs)</b> —maximum number of vMANs configured on a port whose ethertype is 0x8100.	BlackDiamond 20800 series	4,092
<b>VPLS: VCCV (pseudo wire Virtual Circuit Connectivity Verification) VPNs</b> —maximum number of VCCV enabled VPLS VPNs.	BlackDiamond 10808 BlackDiamond 12800 R-series BlackDiamond 20800 series Summit X480	16 16 16 16
<b>VPLS: MAC addresses in an H-VPLS network</b> —maximum number of MAC address learned by a switch in an evenly distributed hierarchical VPLS  <b>Note:</b> Increasing the number of spokes per VPLS will decrease the maximum number of MAC addresses that can be learned.	BlackDiamond 10808 BlackDiamond 12800 R-series	60,000 60,000
<b>VPLS: MAC addresses in a fully meshed VPLS network</b> —maximum number of MAC addresses learned by a switch in an evenly distributed fully meshed VPLS network.	BlackDiamond 10808 BlackDiamond 12800 R-series	100,000 80,000
<b>VPLS: MAC addresses</b> —maximum number of MAC addresses learned by a switch.	BlackDiamond 20800 series Summit X480	500,000 524,488 (up to) <sup>c</sup>
<b>VPLS VPNs</b> —maximum number of VPLS virtual private networks per switch.	BlackDiamond 10808 BlackDiamond 12800 R-series BlackDiamond 20800 series Summit X480	2,000 2,000 4,000 1,023
<b>VPLS peers</b> —maximum number of VPLS peers per switch.	BlackDiamond 10808 BlackDiamond 12800 R-series BlackDiamond 20800 series Summit X480	32 32 64 32
<b>VPLS pseudo wires</b> —maximum number of VPLS pseudo wires per switch.	BlackDiamond 10808 BlackDiamond 12800 R-series BlackDiamond 20800 series Summit X480	2,000 2,000 16,000 8,000

**Table 38: Supported Limits (Continued)**

<b>Metric</b>	<b>Product</b>	<b>Limit</b>
<b>Virtual Private Wire Service (VPWS) VPNs</b> —maximum number of virtual private networks per switch.	BlackDiamond 10808	4,000
	BlackDiamond 12800 series	4,000
	BlackDiamond 20800 series	4,000
	Summit X480	4,000
<b>VRRP (maximum instances)</b> —maximum number of VRRP instances for a single switch.	BlackDiamond 8800 c-series MSM-48c	256
	BlackDiamond 8900 xl-series 8900-MSM128	256
	All other platforms with Advanced Edge license or higher	128
<b>VRRP (maximum VRID)</b> —maximum number of unique VRID numbers per switch.	All platforms with Advanced Edge license or higher	7
<b>VRRP (maximum VRIDs per VLAN)</b> —maximum number of VRIDs per VLAN.	All platforms with Advanced Edge license or higher	7
<b>VRRP (maximum ping tracks)</b> —maximum number of ping tracks per VLAN.	All platforms with Advanced Edge license or higher	8
<b>VRRP (maximum ping tracks)</b> —maximum number of ping tracks per VRRP Instance under 128 VRRP instances.  <b>Hello interval:</b> 100 milliseconds Frequency: 3 seconds Miss: 3  <b>Hello interval:</b> 1 second Frequency: 3 seconds Miss: 3	All platforms with Advanced Edge license or higher	2
		4
<b>VRRP (maximum iproute tracks)</b> —maximum number of IP route tracks per VLAN.	All platforms with Advanced Edge license or higher	8
<b>VRRP</b> —maximum number of VLAN tracks per VLAN.	All platforms with Advanced Edge license or higher	8
<b>XML requests</b> —maximum number of XML requests per second.  <b>Note:</b> Limits are dependent on load and type of XML request. These values are dynamic ACL data requests.	BlackDiamond 8800 c-series	
	with 100 DACLs	10
	with 500 DACLs	3
	BlackDiamond 8900 series	
	with 100 DACLs	10
	with 500 DACLs	3
	BlackDiamond 12800 series with MSM-6R	
	with 100 DACLs	10
	with 500 DACLs	3
	Summit X450a, X480, X650	
	with 100 DACLs	4
	with 500 DACLs	1

- a. An ACL mask defines a unique match criteria and relative rule precedence. Masks are automatically generated based on the contents of an access-list policy. Only adjacent rules within the policy that have identical match criteria will utilize the same ACL mask. For this reason, it is advantageous to list all rules with the same match criteria together unless a relative precedence with other policy rules is required. Using VLAN-based or wildcard ACLs requires the ACL masks to be allocated on every port in the system.

- b. The table shows the total available; see the note included in PD3-77983510.
- c. Limit depends on setting configured for `configure forwarding external-tables`.
- d. Applies only if all enabled BlackDiamond 8000 I/O modules are BlackDiamond 8000 c- or xl-series modules.
- e. Effective capacity varies based on actual IP addresses and hash algorithm selected, but is higher for BlackDiamond 8000 c-series and xl-series modules and Summit X480 and X650 switches compared to BlackDiamond 8800 a-series and 8000 e-series modules and Summit X250e, X450e, and X450a switches.



# 3

## CHAPTER

# Open Issues, Known Behaviors, and Resolved Issues

This chapter describes items needing further clarification and behaviors that might not be intuitive. It also includes limitations in ExtremeXOS system architecture yet to be resolved.

This chapter contains the following sections:

- [Open Issues on page 62](#)
- [Known Behaviors on page 72](#)
- [Resolved Issues in ExtremeXOS 12.4.4-patch1-9 on page 77](#)
- [Resolved Issues in ExtremeXOS 12.4.4-patch1-7 on page 77](#)
- [Resolved Issues in ExtremeXOS 12.4.4-patch1-5 on page 79](#)
- [Resolved Issues in ExtremeXOS 12.4.4-patch1-4 on page 79](#)
- [Resolved Issues in ExtremeXOS 12.4.4-patch1-2 on page 80](#)
- [Resolved Issues in ExtremeXOS 12.4.4 on page 81](#)
- [Resolved Issues in ExtremeXOS 12.4.3-patch1-5 on page 83](#)
- [Resolved Issues in ExtremeXOS 12.4.3 on page 84](#)
- [Resolved Issues in ExtremeXOS 12.4.2-patch1-10 on page 85](#)
- [Resolved Issues in ExtremeXOS 12.4.2-patch1-8 on page 86](#)
- [Resolved Issues in ExtremeXOS 12.4.2-patch1-5 on page 88](#)
- [Resolved Issues in ExtremeXOS 12.4.2-patch1-3 on page 90](#)
- [Resolved Issues in ExtremeXOS 12.4.2-patch1-1 on page 92](#)
- [Resolved Issues in ExtremeXOS 12.4.2 on page 93](#)
- [Resolved Issues in ExtremeXOS 12.4.1-patch1-5 on page 97](#)
- [Resolved Issues in ExtremeXOS 12.4.1-patch1-4 on page 98](#)
- [Resolved Issues in ExtremeXOS 12.4.1 on page 99](#)

## Open Issues

Following are the open issues for supported features in ExtremeXOS 12.4.4. They are organized into the following sections:

**Table 39: Open Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1947340095	DHCP/BOOTP relay does not work properly if <code>iproute mpls-next-hops</code> is enabled because they are unsupported features.
PD4-1909431762	The <code>debug eaps check configuration</code> command does not return a warning if a VLAN is not protected but has EAPS ring ports.
PD4-1933942563, PD4-1935115266	Load script fails to enable routing protocols when an IP Duplicate Address Detection configuration is on in the loaded configuration.
PD4-1937692011	Copying large configuration files through SCP fails.
PD4-1837408307, PD4-1445926371	A link flap occurs on fiber links connected to a Summit family switch when a BlackDiamond 10800 series switch is rebooted with ports disabled.
PD4-1206004841	The message displayed while upgrading firmware should read:  <code>Firmware installed successfully will only be used on next reboot</code>
PD4-935914533	Performing a ping test to a local but non-existent host results in an inconsistent "Destination Host Unreachable" return message.
PD3-57182431	For the incoming traffic with alignment errors, the "RX Align" counter in the output of the <code>show ports &lt;port number&gt; rxerrors</code> command is not incremented. Instead the "RX CRC" counter is incremented.
PD4-813961562	When a service VLAN is changed to include a dot1q tag on both sides in CFM VPLS, the RMEP entry is not learned on one side.
PD4-1101165057, PD4-770508534	If the <code>configure ip-mtu</code> command is configured on VLANs that have only an IPv6 address, the <code>show configuration</code> command does not display the output for the <code>configure ip-mtu</code> command.
PD4-1194741135	<code>setDynamicAc.pl</code> , which is used to create a dynamic ACL and bind it to a specific port, is not working.  <b>Workaround:</b> The following SOAP element corrects this issue.  <code>SOAP::Data-&gt;name("applicationName" =&gt; "Cli");</code>
PD4-910088928	The following error message is displayed when downgrading a switch from ExtremeXOS 12.3 or later to ExtremeXOS 12.2 or earlier.  <code>Error: child process exited abnormally.</code>
PD4-749060484	Errors are seen when a configuration having identifiers (SNMPv3 user name/EAPS domain name) with special characters are loaded through a script.
PD4-561358261	If you create a super VLAN and a sub-VLAN in different virtual routers you are able to bind the VLANs. Super VLANs and sub-VLANs should belong to the same virtual router.
PD4-460892051	Installing different versions of an ExtremeXOS image and an SSH image displays the following error message:  <code>Failed to install image- cannot read spec file" in the log "upgrade failed installation:got error from installer DLL"</code>
PD3-132508261	When issuing the <code>enable jumbo-frame port all</code> command on a BlackDiamond 8800, the MTU size for the VLAN is not configured. Sending 5,000 byte traffic works correctly. However, if you disable jumbo-frames on the egress port the error message <code>Packet too big</code> is displayed.

**Table 39: Open Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD3-104885349	When a shared link comes up, temporary traffic loss may occur until FDB entries are aged. Aging occurs by default every five minutes. <b>Workaround:</b> To reduce traffic loss, reduce the default age time.
PD3-132775269	Telnet sessions between two switches using two windows causes one session to hang if both sessions are edited but only one session is saved.
PD3-28378521	Enabling load sharing on a port that is being mirrored causes the mirroring to stop.
<b>BlackDiamond 8800 Switch</b>	
PD4-750014887	If a failover occurs during a "refresh policy" the HAL process dies on a new master MSM. <b>Workaround:</b> Avoid performing a policy refresh if switching from one MSM to another.
<b>BlackDiamond 10800 Switch</b>	
PD3-121985381	You cannot configure an IP MTU that is greater than the configured jumbo frame size. However, when the jumbo frame size is configured using a smaller value than the IP MTU, the configuration is accepted and the traffic is forwarded using the larger packet sizes.
PD4-489592307	Switch is not sending an "icmp destination unreachable" message to the source when it receives a jumbo packet with a "dont fragment" bit message. This applies to BlackDiamond 10800 and BlackDiamond 20808 switches only.
PD3-28320363	In IPv6, the encapsulate value is "next header," which is not currently a valid attribute.
PD3-124124316	The following error messages are shown in the log when running 50,000 unicast routes with ECMP enabled:  02/05/2007 15:38:37.89 <Warn:HAL.Sys.Warning> MSM-A: hal: Reached maximum otp index allocation 02/05/2007 15:38:37.56 <Warn:HAL.Sys.Warning> MSM-A: Previous message repeated 999 additional times in the last 1 second(s)
PD4-318846862	L3 multicast traffic in a VPLS VMAN is forwarded twice when the LSP is changed to port sharing and is then changed back.
PD3-54870537, PD3-45729158	Under the following circumstances, EAPS control packets received on the wrong VLAN may be treated and processed.  1 Create a EAPS ring with three or more switches with a BlackDiamond 10808 as one of the transit switches, directly connect to the master with load sharing enabled.  2 Enable load sharing on the primary port of the master switch (the master port should be higher than the group port so that the configuration master and current master are different in load sharing).  3 Disable load sharing on the BlackDiamond 10808.  4 Show EAPS on the master switch; the domain state will be complete.  5 The control packets are transmitted on the current master and the BlackDiamond 10808 will receive the packets on the port that is not part of the EAPS VLAN.
PD3-202184409	Adding/deleting a LAG sharing port changes the VLAN status, which is causing an OSPF/ MPLS reconvergence.
PD3-133427241	When an OSPF external filter is configured to deny routes, not all routes are being filtered.
PD3-204793983	The egress rate-limit shown in the command output of the <code>show port utilization</code> command is not correct.
<b>BlackDiamond 12800 Series Switch</b>	
PD4-1736472668	If the <code>disable port</code> command is executed when an FX/LX SFP is not present, after inserting an FX/LX SFP and running the <code>enable port</code> command, a link may not come up on a BlackDiamond 12800 series switch.

**Table 39: Open Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-1736472663	If an FX/LX port is disabled when a slot is down, once the slot is operational again, running the <code>enable port</code> command may not restore the traffic for some of the FX/LX ports.
PD4-1736184348	When a configuration has an FX/FX port disabled, after running the <code>save</code> and <code>reboot</code> commands, enabling the port may not properly bring the link up.
PD4-1736184341	On a BlackDiamond 12800 series switch, when a port that contains an FX/LX SFP is disabled, the switch reports the port as "active" even though the link goes down correctly on the remote end.
PD4-722565430	IPv6 ACL address masks are not working correctly after rebooting a switch.
PD4-737811617	Creating a blackhole FDB entry on a BlackDiamond 12800 series switch still forwards traffic from a BlackDiamond 20808 to a BlackDiamond 12800. <b>Workaround:</b> Create blackhole entries for the same MAC on each of the subscriber VLANs.
PD4-742951283	An I/O slot fails due to a Tx data memory overflow and generates the following error message:  <code>&lt;Erro:HAL.Card.Error&gt; MSM-A: skylerHC-1184: skyler12 on slot 1 (4 errors):TX Data Memory Overflow: reg 0x32 value 0x01000001 wanted (0x00000000) got (0x01000000)</code>
PD4-740255437	Policy files are not refreshed when generating 30,000 rules.
PD4-285686375	After upgrading to the latest ExtremeXOS 12.1.2. image, the following EEPROM error message appears in the log:  <code>MSM-A: MSM-B card eeprom checksum failed. 0xb97 != 0xb96</code>
PD3-125288233	MSTP fails to converge when a vMAN Ethernet type is set to 0x8100 on a BlackDiamond 12800 series switch.
PD3-192175421	The following error message is displayed when installing a policy file with more than 4,096 rules:  <code>Error: Unable to bind traffic queue tq4095 to port 1:1.</code>
PD3-187808062	A BlackDiamond 12800 series switch does not show a warning message on the console for down revision MSM and I/O modules after initialization.
PD3-86738591	Traffic queue statistics are incorrect when a BlackDiamond 12800 series switch is configured to work in H-QoS mode. Statistics counters are accurate when the switch is configured in the PRI mode.
PD3-118914021	When an OSPF neighbor is configured between two LSRs and MPLS, and an LDP session is configured between them, the ABR router advertises a default route to the internal router. The default route is not mapped to a label in the internal router because the ABR does not advertise the label
<b>BlackDiamond 20800 Series Switch</b>	
PD4-1254536303	In the output of the CLI command <code>show traffic queue egress-port 2:1</code> , "onlyIn" statistics are not getting updated based on the traffic passed.
PD4-730221901	Refreshing an ACL on an MM-B while running an MSM failover on MM-A causes MSM-A to lose the ACL configuration on MSM-A.
PD4-646084932	An FDB entry for a non-isolated VLAN is not show in the output of the <code>show fdb</code> command after disabling and enabling an I/O module.
PD4-733230780	MAC security does not work on a PVLAN.
PD4-749280880	Installing firmware fails and displays the following message:  <code>tftp: server says: Wrong TFTP State</code>



**Table 39: Open Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-1026932011	Hot swapping an XFM module may cause an odometer reading error. ExtremeXOS will not be able to read the odometer reading.  FABRIC-2 information: State: Operational PartInfo: XFM-2 10076-80022 806019-00-05 Revision: 5.0 FailureCode: 0 Odometer: Temperature: 40.0 deg C Status: FABRIC Mode
PD4-973196600	The following error or warning messages are seen after installing firmware from CR 21 (ExtremeXOS 12.3.2.5) to CR 22 (ExtremeXOS 12.4.1):  * (debug) BD-20808.8 # show log sev err < Erro:Kern.Error > MM-A: ide0: unexpected interrupt, status=0xd0, count=1 <Erro:Kern.Error> MM-B: ide0: unexpected interrupt, status=0xd0, count=1 <Erro:HAL.Card.Error> MM-A: PHD EEPROM READ ERROR..SLOT=8, ADDR=167 <Erro:HAL.Card.Error> MM-A: Previous message repeated 2 additional times in the last 60 second(s) < Crit:HAL.Fabric.Critical> MM-A: pioneerBringDownFE200 Bringing Down FE200 on XBAR 2 as the command EXTRUC_FE_MCAST_WRITE_CMD Failed, Reason: UCPIPE_TIMEOUT <Erro:HAL.Card.PowerStateError> MM-A: A request to power down slot 8 failed - returning a completion code of -1 . <Erro:HAL.Card.Error> MM-A: PHD EEPROM READ ERROR..SLOT=5, ADDR=167 <Erro:HAL.Card.Error> MM-A: Previous message repeated 2 additional times in the last 59 second(s) <Crit:DM.Critical> MM-B: Slot-5 FAILED (6) IO Slot5 Micro controller was reset. Attempt to recover <Crit:DM.Critical> MM-A: Slot-4 FAILED (6) IO Slot4 Micro controller was reset. Attempt to recover <Crit:cm.file.openErr> MM-B: Failed to open file "/config/primary.cfg": No such file or directory
PD4-1135195907	With 4,000 VPLS instances, L2 unicast traffic recovers 8 to 10 minutes after disabling and enabling VPLS or MPLS traffic in a three node configuration.
PD4-465744039	ACL counters are not hitting the IGMP packets.
PD4-506754505	When creating a dynamic egress ACL to deny all traffic, the traffic still hits the ARP reply counter but not denying the packets.
PD4-450852442	When configuring an ACL and using the keyword denyAll in the create access-list command, the action is not stopping the ARP reply packets.
PD4-614541490	VPLS traffic stops after configuring MAC limit-learning.
PD4-720906222	Performing a save and reboot on a DUT with 5,000 dynamic ACLs causes one module to go into a failed state while the remaining modules stay in ACL sync even after one hour.
PD4-690958111	After running the unconfigure switch all command, an I/O module may stick in the booting state, resulting in the switch continually rebooting.
PD4-631700490	When PIM and PIM snooping are enabled on the same VLAN, and if that VLAN happens to be a PIM egress VLAN, traffic forwarding does not happen on the VLAN.
PD4-854675001, PD4-860561781	A BlackDiamond 20808 switch with a single MM running ExtremeXOS 12.3.2 software fails to upgrade during a firmware upgrade process. It also fails during the firmware downgrade process. You may need to try and install the firmware multiple times.
PD4-552222911	DUT is hanging with a busy message (dots) after configuring 7,250 ingress dynamic ACLs with conduit errors.

**Table 39: Open Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-757707981	Proxy ARP does not work in a PVLAN.
PD4-526514731	On a BlackDiamond 20800 series switch, the system experiences a random packet drop from the MM to the packet processor health check loopback interface.
PD4-730820249	If a route prefix in a BlackDiamond 20800 series switch is more than 24, only 100,000 routes are stored in the hardware. For the route prefixes less than 24, then 512,000 routes are stored in the hardware.
PD4-734160880, PD4-697230006	Extreme Networks does not support the same (S,G) stream entering a switch through multiple constituent VLANs of a private VLAN or VLAN aggregation. If a source moves from one constituent VLAN to another, run the <code>clear igmp snooping</code> command.
PD4-1048824150	Deleting meters reports an error after an access list is configured and unconfigured multiple times. <b>Workaround:</b> Configure another meter.
PD4-1066604251	In dual MM systems, whenever a meter deletion results in a timeout, the <code>show meter</code> command output still shows the meter, even though the error <code>meter could not be found</code> is displayed. <b>Workaround:</b> Create and use another meter.
PD4-1064653511	The error <code>.....***** Process hal pid: 474 died with signal:11</code> is displayed on an active MM when 1,000 policy files are configured on multiple egress ports. <b>Workaround:</b> Configurations exceeding the scaling limit are not supported.
PD4-1064653532	When configuring an access list with traffic queues, with a 10G port as one of the egress port, traffic is lost when the corresponding 10G I/O module is hot swapped. <b>Workaround:</b> Disable and re-enable the I/O module.
PD4-1056439342	I/O modules reboot when egress rate shaping is configured above 1,000 traffic queues with all egress ports. <b>Workaround:</b> Configure egress rate shaping with the proper scaling limits.
PD4-861903959	When the backup MM is not yet synced (because of <code>run msm-failover</code> or running diagnostics) and one performs an MM-failover, the command is accepted, however, both MMs will then reboot. <b>Workaround:</b> Make sure that <code>run-time diagnostics</code> command checks that both MMs are in sync before running the diagnostics.
PD4-847978862	A monitor port does not come up after enabling a port after a DUT is rebooted with a disabled monitor port. The following error is displayed while rebooting:  MM-A: voyagerCardPowerEnabl e:1144:- Invalid System mode information returned from dm. dmGetSystemMode ( ) = 33 08/15/2009 16:47:02.47 < Errro:HAL.Card.Error > MM-A: voyagerCardPowerEnabl e:1144:- Invalid System mode information returned from dm. dmGetSystemMode ( ) = 33
PD4-803757411	Configuring a meter on a BlackDiamond 20808 switch to limit broadcast or multicast traffic (rate-limit flood-traffic) is not possible without an HQoS license.
PD4-748388236	Egress rate shaping does not work after running the <code>save</code> and <code>reboot</code> commands if an egress port is not specified. Configured egress rate-shaping does not work on a newly inserted I/O module if an egress port is not specified. <b>Workaround:</b> Unconfigure the ACL and re-apply the same ACL.
PD4-715473099	The multicast traffic receive rate for 10,000 multicast groups takes an excessive amount of processing time.

**Table 39: Open Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-756263261	The <code>show fabric</code> command in an ExtremeXOS environment shows the fabric information is XFM-2.
PD4-728354005	On a BlackDiamond 20808 switch, running the <code>show tech-support</code> command when I/O modules or fabric slots are in the process of booting, or are otherwise not operational, may cause <code>sys-health-check</code> output to display fabric link faults, when there are actually none. This is a transient state. Once the modules are operational, only actual fabric link faults are displayed in the command output.
PD4-603229266	A slot reboots when load sharing is disabled and MVR is disabled and re-enabled.
PD4-587169451	Running the <code>install firmware</code> command may generate numerous error messages in the Event Management System (EMS) logs. These messages do not impact system performance.  <pre> &lt;Erro:HAL.Sys.BackupPFCFailed&gt; MM-A: Backup Power Fan Controller (#2) has failed &lt;Erro:EPM.Upgrade.Fail&gt; MM-A: Upgrade failed, script: install bootrom failed &lt;Erro:HAL.Sys.GetPFCMastershipFailed&gt; MM-A: Failed to get Power Fan Controller Mastership for slot #17 &lt;Erro:HAL.Sys.OtherPFCFailed&gt; MM-B: Power Fan Controller in slot 17 has failed to communicate with EXOS &lt;Erro:HAL.Sys.SetBackupPFCToMaster&gt; MM-B: An error happened and is now setting the backup Power Fan Controller #2 to be the master Power Fan Controller &lt;Erro:HAL.Sys.MasterPFCFailed&gt; MM-B: Master Power and Fan Controller (#1) has failed &lt;Crit:HAL.Fabric.Critical&gt; MM-A: pioennerBringDownFE200 Bringing Down FE200 on XBAR 1 as the command EXTRUC_FE_READ_CMD Failed, Reason: UCPIPE_ERROR &lt;Erro:HAL.Sys.Error&gt; MM-A: Slot XBAR1: 23918 FE 0 read 0xb50 </pre>
<b>Summit Family Switches</b>	
PD4-1545964372	On a Summit X480 switch, the log message <code>Setting hwclock time to system time, and broadcasting time</code> is frequently displayed.
PD4-749682632	You cannot run the <code>configure port auto</code> on command on XGM2-2bt ports.
PD3-127401831	On a Summit X250e platform with 128 VRRP instances that are advertised for 100 milliseconds, the feature "don't preempt" is not working properly.
PD4-427423116	When a dot1x client is authenticated at multiple VLANs, the output of the <code>show netlogin port</code> command shows the client is sometimes authenticated at the local server and other times at a RADIUS server.  <b>Note:</b> This occurs when dot1x and MAC authentication are enabled on the port.
PD4-1101069206	When configuring 2,000 VPWS instances, only 1,023 VPWS instances are created.
PD4-448681226	The <code>show 12stats</code> command does not count ARP packets to the CPU, even though the packet goes to the CPU.
PD4-489142320	One Gigabit ports set to <code>auto</code> on flap twice during a switch reboot.
PD4-489359602	Conflicting Link Fault Signal (LFS) alarms are shown when disabling local ports.
PD4-274249122	If a Summit switch populated with an XGM2-2bt module is rebooted, a false link up is seen on 10G links connected to the XGM2-2bt ports approximately 30 to 50 seconds before the switch has fully booted.

**Table 39: Open Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-1142692318	<p>On Summit X480 switches, L3 multicast traffic sent from a service VLAN/vMAN to VPLS is not received at the VPLS peer.</p> <p><b>Workaround:</b> Two modes of operation are supported on ports that are configured as part of a VPLS service VLAN.</p> <p>Using the first mode, the following configuration is set for all VLANs on the port (VPLS service VLANs and non-VPLS service VLANs):</p> <ol style="list-style-type: none"> <li>1 IGMP snooping is configured as disabled. The default is enabled.</li> <li>2 No IP address is configured.</li> </ol> <p>Using the second mode, the following configuration is set:</p> <ol style="list-style-type: none"> <li>1 Run the <code>configure igmp snooping filters per-VLAN</code> command. The default is per-port.</li> <li>2 If an IP address is configured for a VPLS service VLAN, run the <code>configure ipmcforwarding to-cpu off port &lt;port&gt;</code> command. The default is auto.</li> </ol>
PD3-43606168	<p>If sFlow does not have a collector configured using the <code>configure sflow collector</code> command, the <code>show log</code> command generates the following messages:</p> <pre>08/23/2005 12:28:09.55 &lt;Noti:sflow.debug.AddCntSmplFail&gt; : Could not add the counter sample for port 0:1020, as receiver is not configured.</pre> <pre>08/23/2005 12:07:49.55 &lt;Noti:sflow.debug.AddCntSmplFail&gt; : Previous message repeated 61 additional times in the last 1200 second(s).</pre>
PD3-40266236, PD3-40233121	Traffic on load share ports configured as redundant ports incorrectly moves to other ports in the load share group during link transition.
PD3-202013281	Learning is disabled by default on remote mirroring VLANs. Running the <code>enable learning</code> command on those VLANs may cause a loss of remote mirrored traffic.
PD3-202013298	The valid value range for tags on remote-mirroring VLANs is 1 to 4,094. Use these values for configuring the remote tag in the <code>enable mirroring</code> command.
<b>SummitStack</b>	
PD4-1420046680	Powering up a SummitStack backup node causes a traffic drop of approximately 6 seconds when ports across slots are used for a LAG.
PD4-928567091	Running the <code>synchronize</code> command on a Summit X650 in a SummitStack causes the system to time out and the stack to not synchronize for an extended period of time. This also results in the master node no longer being accessible.
PD4-787052219, PD4-416129282	When a backup slot reboots and comes up, the switch experiences multiple stack link flaps.
PD3-181304741	After inserting a XENPAK in a stack (XGM2-2xn, XGM-2xn) and performing an <code>snmpwalk</code> on the <code>entityMib entPhysicalDescr</code> variable, XGM- is always shown, not the complete module description.
PD3-126650411	A stackable system with two or more nodes may experience random VRRP master/backup flapping issues after an MSM failover when configured with the maximum 128 VRRP instances using the minimum advertisement interval of 100ms and maximum tracking entries.
PD3-209191768	After running the <code>disable port all</code> command on a SummitStack, some port LEDs may sometimes light green even though ports are not up.
PD3-204744742	IPv6 neighbor-discovery in a management VLAN in a SummitStack resolves to the node address of the stack master, instead of the stack MAC address.

**Table 39: Open Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD3-136493921	<p>If a switch is added to a stack whose master switch has a license level that is greater than the level of the switch, the switch will fail. The complete condition can be seen using the <code>show slot detail</code> command. In this state, the switch does not have AAA services available. You will only be able to log into the switch using the failsafe account that was last assigned to it. You must log into the switch to upgrade the license. If the switch is not using the failsafe account configured on the stack, you can use the <code>synchronize stacking {node-address &lt;node-address&gt;   slot &lt;slot-number&gt;}</code> command to copy the failsafe account information from the master switch to the failed switch NVRAM.</p> <p>You can also use the <code>configure stacking license-level</code> command to configure a license level restriction on the entire stack and then reboot the stack. Once the stack is restarted, there is no longer a license mismatch, enabling you to log into the switch and upgrade the license. From the master switch, run the <code>unconfigure stacking license-level</code> command to get the stack to operate at the desired license and then reboot the stack.</p>
<b>ACL</b>	
PD4-1842342671, PD4-1299398446	Performing a check-policy for a policy containing @description fails after upgrading from ExtremeXOS 12.1.3 software.
<b>BGP</b>	
PD3-209442785	Static multicast routes are not exported using MBGP. However, a static unicast route can be exported using MBGP.
<b>CLEAR-Flow</b>	
PD4-278443631	CLEAR-Flow commands display on platforms that do not support this capability, including the Summit X150, X250, X350, and X450e series switches, as well as BlackDiamond 8800 non-c-series switches.
<b>EAPS</b>	
PD4-749215481	<p>Disabling the EAPS master primary port when there are no other ports configured on a protected VLAN will cause a disruption of L2/L3 multicast traffic.</p> <p><b>Workaround:</b> Enable loopback on all EAPS protected VLANs.</p>
PD4-471892924	<p>Restarting the EAPS process on a controller generates the following error messages on a console, but does not impact switch performance.</p> <pre>BD-8806.80 # restart process eaps Step 1: terminating process eaps gracefully ... Step 2: starting process eaps ... Restarted process eaps successfully BD-8806.81 # ERROR:VmgrProtocolIfRegister protoId:0 numIf:1 ERROR:VmgrProtocolIfRegister protoId:0 numIf:3 ERROR:VmgrProtocolIfRegister protoId:0 numIf:1</pre>
<b>IP Routing Protocols</b>	
PD3-39411271	icmplnMsgs counter will display the incoming ICMP packets for VR-Default only.
PD3-128093864	MSDP Source-Active responses received from non-RPF peers are not processed.
PD3-192821161	<p>For Summit X650, X450 a-series and e-series switches, and the BlackDiamond 8800 series of switches, the maximum number of supported IP interfaces is 512 (IPv4 and IPv6 combined). If there are more IP interfaces configured, the following log message is displayed:</p> <pre>&lt;Info:HAL.VLAN.Info&gt; Maximum # of IP interfaces (512) already configured. Could not add IP address 0x0A010101 mask 0xFFFFFFFF00</pre>
PD3-202580681	Enabling IP route compression may cause temporary slow path forwarding for some of the L3 traffic.
PD4-718946965	Directed broadcast traffic is not being forwarded.

**Table 39: Open Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
<b>Mirroring</b>	
PD3-79867211	If you create a load sharing group (trunk), then enable mirroring to a port, the software allows you to add the mirroring port to the load sharing group.
<b>MPLS</b>	
PD4-464587012	All unicast traffic routed by MPLS is stopped when penultimate hop popping (PHP) is enabled on all MPLS VLANs. VPLS traffic is not impacted.
PD4-476351932	Performing a <code>restart process mpls</code> or <code>restart process ospf</code> on a spoke node in an HVPLS setup causes the Label Distribution Protocol (LDP) peer to go down with the core node. <b>Workaround:</b> Disable and enable MPLS.
PD4-475414370	The following warning message is seen numerous times after changing VLAN Virtual Private LAN Services (VPLS) mappings: <code>&lt;Warn:MPLS.LDP.InternalProb&gt;</code>
PD4-475414505	In more complex topologies, detour Label Switched Path (LSP) connections are not set up.
PD4-475414558	Changing a Label Switch Router (LSR) ID causes all Label Distribution Protocol (LDP) peers to go into a NonExistent state.
PD4-452308541	The secondary pseudo wire on an ESRP master switch does not take the secondary core node pseudo wire after the primary core is rebooted.
PD3-157687121	ExtremeXOS software uses Control Channel Type 2 to indicate router alert label mode. In MPLS Router Alert Label mode, VCCV packets are encapsulated in a label stack. However, the existing VCCV packets are sent like a stack without any PW label.
PD3-184989177	When an <code>LDP advertise static</code> setting is set to <code>all</code> , all static routes are treated as egress routes and egress LSPs are created. That is, a label is generated and advertised for the static route. If the router at the end of the static route advertises a label matching that static route, the LSP that was previously an egress LSP becomes a transit LSP. An ingress LSP should also be created whenever a label is received, however, the ingress LSP is never created. <b>Workaround:</b> Do not use the <code>LDP advertise static all</code> configuration in situations where an ingress LSP for a static route is required.
PD3-139423053	Running the <code>show mpls rsvp-te lsp summary</code> command on a system configured with 2,000 ingress LSPs takes an excessive amount of time to process.
PD3-92653036	The <code>show mpls label</code> , <code>show mpls rsvp-te label</code> , and <code>show mpls rsvp-te lsp</code> command output currently does not display egress LSPs using advertised implicit NULL labels.
PD3-111544904	When a router receives an explicit NULL label, it is incorrectly treated as an implicit NULL label, so rather than sending label 0, no label is sent.
PD3-93218551	If either an egress or a transit LSP traverses the system, and an MPLS labelled packet containing a router alert label is received, that packet is not forwarded.
PD3-93069318	Only VLANs configured as protocol <i>any</i> should be added to MPLS.
PD3-104731701	When a traceroute is performed by setting the MPLS TTL to the IP TTL, ExtremeXOS does not correctly send back an ICMP response. The result is "***" characters in the traceroute for the routers that timed out. If a route is available, ExtremeXOS should attempt to send back an ICMP response.
PD3-93630853	LDP should not advertise a label mapping for a direct VLAN that does not have IP forwarding enabled.



**Table 39: Open Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD3-203917264	When an explicit route object (ERO) is changed for an LSP session that is up, the LSP that is already up is not torn down. LSP stays up based on the older values. The retry count continues to increment as LSP tries to come up with new values by querying routes every 30 seconds. This is done while the earlier LSP session is still active using the previously configured values. See the retry count in the command output for the <code>show mpls rsvp-te lsp &lt;lsp_name&gt; detail</code> command.
<b>Multicast</b>	
PD4-581950231	Multicast traffic is not received even though the rendezvous point (RP) tree and source information is shown in the PIM cache table
PD4-521915271	The Internet Group Management Protocol (IGMP) group reports may occasionally change from Version 2 to Version 3.
PD4-339945634	When a load-sharing group is a member of a mirrored VLAN, packets ingressing on the member of the load-sharing group in the mirrored VLAN should be mirrored. On the Summit family switches and BlackDiamond 8800 modules, packets ingressing on member ports other than the master port of the load-sharing group in the VLAN are not mirrored.  <b>Workaround:</b> Packets ingressing non-master ports in the load sharing group on the mirrored VLAN can be mirrored by adding virtual port mirroring filters for each of the non-master member ports.
PD3-78144711	The <code>show ipstats</code> command does not increment IGMPv3 statistics.
PD3-79383551	IGMPv3 Report Record type "5" does not work as expected when sent after a type "2" or a type "4" message.
<b>Network Login</b>	
PD4-468366251	A network login client is not authenticated if the username is 32 characters. Only 31 character user names are supported, even if the user can create a 32-character username.
PD4-763062511	Hitless upgrade is not supported for network login in ExtremeXOS 12.3.1.
PD4-752731351	You should not be able to enable network login if a VLAN is a VLAN-aggregation subVLAN. The system should generate a syntax error.
<b>Network Services</b>	
PD3-93829391	Configurations using a VR-Mgmt interface as a RADIUS client IP may not load at boot-up. However, using an interface in VR-Default will load correctly.
PD3-67727590	Creating two sets of vMAN ACLs with 4000 entries each and performing a vMAN ID translation on each ACL may generate the following error:  <pre> .....03/15/2006 17:57:28.84 &lt;Info:pm.config.openingFile&gt; MSM-B: Loading policy RLL20k from file /config/RLL20k.pol ...03/15/2006 17:57:32.46 &lt;Info:pm.config.loaded&gt; MSM-B: Loaded Policy: RLL20k number of entries 4002 .....Error in alloc txmi txmi 0x9f2 txmdi 0xffffffff Error in alloc txmi txmi 0x9f4 txmdi 0xffffffff Error in alloc txmi txmi 0x1102 txmdi 0xffffffff Error in alloc txmi txmi 0x9f6 txmdi 0xffffffff Error in alloc txmi txmi 0x9f8 txmdi 0xffffffff </pre>
<b>QoS</b>	
PD3-67431351	Configuring an ingress traffic queue and an egress traffic queue association to multiple ports in sequential order generates the following error:  <pre> Egress queue already associated to this ingress queue Configuration failed on backup MSM, command execution aborted! </pre>
PD3-16578296	The member ports of a trunk will retain the QoS profile configuration of the trunk (based on the master port) after load sharing is disabled, or if a port is removed from the trunk.

**Table 39: Open Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
<b>ScreenPlay</b>	
PD3-111344472	ScreenPlay allows you to configure DHCP but you cannot enable DHCP.
<b>Security</b>	
PD3-205012219	The source-ip-lockdown dynamic deny acl counter is not working properly and increments valid traffic from a trusted client.
PD3-186939931	Ingress mirroring is not working for DHCP snooping when snooping is enabled on BlackDiamond 12800 series switches. DHCP snooping works correctly when DHCP snooping is disabled.
PD3-75120608	The <code>unconfigure radius</code> and <code>unconfigure tacacs</code> commands do not reset the timeout value to the system default of 3 seconds.
<b>SNMP</b>	
PD4-705730556	AES/3des users created using ExtremeXOS 12.3.1 software cannot be used for SNMP operations in ExtremeXOS 12.1 or earlier releases. This may cause the SNMP master to crash.
<b>Spanning Tree Protocol</b>	
PD3-189927343	A temporary loop occurs when a root bridge is taken down by disabling all ports or powering down the switch.
<b>WAN PHY</b>	
PD3-101226461	When <code>show wan-phy</code> commands are run on non WAN PHY ports, the ports display the headers. It should only display the error <code>wan command is not supported on non-wanphy port 25</code> .

## Known Behaviors

The following are limitations in ExtremeXOS system architecture yet to be resolved.

**Table 40: Known Behaviors, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1243528711	A switch reboots because a system crash occurs when software is transmitting control packets on a VLAN while the VLAN is being deleted.
<b>BlackDiamond 8800 Series Switch</b>	
PD4-449743037	Group entries are not timing out on Multicast VLAN Registration (MVR) and non-MVR VLANs even though snooping is disabled on the non-MVR VLAN.
<b>BlackDiamond 10800 Series Switch</b>	
PD3-68165111	Various memory locations that are part of the forwarding and routing tables are parity protected on BlackDiamond 10808 switches. The functionality should be turned on so that faults are detectable.
<b>BlackDiamond 12800 Switch</b>	
PD4-482808326	When a configuration is saved as a default.xsf configuration, errors are seen when the configuration comes up after running the <code>unconfigure switch</code> command.
PD4-1243529244	Running CLI commands on a BlackDiamond 12800 series switch with an MSM-6R module shows an intermittent delay of 30 to 60 seconds during command execution



**Table 40: Known Behaviors, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-750488331	When a BlackDiamond 12800 series switch with 4,000 BVLANS and 2,000 SVLANS configured and IGMP snooping disabled, the switch crashes when enabling sharing with LACP on BVLAN ports. This configuration may also cause an MSM to go into a failed state.
PD3-205380274	sFlow is not working on ports that are included in BVLANS, SVLANS, and occasionally vMANs. sFlow can be enabled and configured for ports in BVLANS, SVLANS, and vMANs, but nothing is sent to the sFlow collector.
<b>BlackDiamond 20800 Series Switch</b>	
PD4-1329832744	When VRRP is disabled on a switch the redundant VRRP switch becomes the master. In this event, IP packets that need to be routed back to the switch where VRRP is disabled are dropped.
PD4-969859031	After upgrading from CR21 to CR22 firmware on a BlackDiamond 20808 chassis, the log fills up with error and warning messages.
PD4-756213981	BlackDiamond 20808 multicast rate-limit supports a minimum 10 Mbps.
PD4-841530197	The <code>install firmware</code> command displays a lot of errors in the log and the HAL CPU goes to 99% capacity.  FE200 on XBAR 3 as the command <code>EXTRUC_FE_WRITE_CMD</code> Failed, Reason: UCPIPE_ERROR 08/10/2009 02:58:43.26 MM-A: Error Register Write ExtremeFE200WriteUC Offset: a10 Value ffffffff for Fabric Slot: 3 08/10/2009 02:56:32.29 MM-A: Slot-8 FAILED (3) Error Generic Error(-1) from HAL on CardExec POWER_OFF(10) for slot 8 08/10/2009 02:56:32.29 MM-A
PD4-708913560	ExtremeXOS software does not monitor the temperature of I/O modules or the fan speed. If the temperature sensors on an I/O module exceeds 80 Celsius (C), set both fan trays to 100%. When all temperature sensors on the I/O modules drop below 60 C, set the fan speed to default (bottom fan tray at 40%, and the top fan tray at 60%). If a temperature sensor on an I/O module exceeds 90 C, disable the slot and flag it as failed.
PD4-1095528349	The <code>show access-list counters</code> command does not return the proper values and generates the following log message:  <Warn:HAL.Ipv4ACL.SendSlotCfgMsgFail> MM-B: An operation to send ACL configuration 7 to one or more slots failed with error HAL_CNDT_ERR.
PD4-973196566	When downgrading from CR22 in ExtremeXOS 12.4.1 to CR 21 in ExtremeXOS 12.3.2.5, multiple error and warning messages are displayed.  * (debug) BD-20808.5 # sh log sev err <Erro:HAL.Card.Error> MM-B:voyagerCardPowerEnable:1153:- Invalid System mode information returned from dm. dmGetSystemMode() = 33 <Crit:HAL.Fabric.Critical> MM-A: Failed to initilize Fabric Elements in Slot: <Crit:HAL.Fabric.Critical> MM-A: fe200_init_fabriccard_1 FE-200 Power up Failed for Fabric Slot: 5
PD4-1215784550	I/O slots that are configured for a sys-recovery shutdown are not going to the shutdown state when a hardware error occurs on the slot.
PD4-1347661196	Downgrade the firmware on the New Fan tray (Part No. 806023-00-01) to any firmware lower than CR 24 (ExtremeXOS 12.4.2). This action will cause fan tray to go into failed state. Perform <code>install firmware verify</code> or <code>install firmware</code> to upgrade the new fan tray. It will ask to upgrade the firmware second time using <code>install firmware verify</code> or <code>install firmware</code> . After the second firmware upgrade, show fan will not show correct fan speed unless the system is power cycled once to reboot both MMs to communicate with fan trays properly.

**Table 40: Known Behaviors, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-1345813119	<p>When upgrading firmware to CR 24 (ExtremeXOS 12.4.2) from any ExtremeXOS image of 12.4.2 or earlier, the following error messages are seen in the log.</p> <pre>*Bd-20808.5 # sh log sev err &lt;Crit:HAL.Fabric.Critical&gt; MM-A: pioneerBringDownFE200 Bringing Down FE200 on XBAR 5 as the command EXTRUC_FE_WRITE_CMD Failed, Reason: UCPIPE_ERROR &lt;Crit:HAL.Fabric.Critical&gt; MM-A: pioneerBringDownFE200 Bringing Down FE200 on XBAR 4 as the command EXTRUC_FE_WRITE_CMD Failed, Reason: UCPIPE_ERROR &lt;Crit:HAL.Fabric.Critical&gt; MM-A: pioneerBringDown</pre>
PD4-1357671191	<p>Broadcast, multicast, and unknown unicast traffic is not rate-limited in accordance with the configured rate when the configured rate of the meter is below 10 Mbps. This issue applies only when trying to configure rate limiting for unknown, unicast, broadcast, and multicast traffic using the following CLI commands:</p> <pre>configure rate-limit flood multicast-guaranteed meter &lt;meter-name&gt; configure rate-limit flood multicast-best-effort meter &lt;meter-name&gt;</pre>
PD4-1168490821	<p>While performing an install firmware using ExtremeXOS 12.4.1 from CR 17 (ExtremeXOS 12.2.2.11-patch1-3 firmware), the fan tray upgrade fails. Reinstall the firmware to upgrade the fan tray to CR 23 with ExtremeXOS 12.4.1. The fan tray fails with the following error message:</p> <pre>tftp: server error: (0) Wrong TFTP State TFTP FAILED: TRAY 1, Fantray Secondary image Fantray firmware installation failed for Tray-1 Error: Failed to install image -</pre>
PD4-667561942	The command output for the <code>show fdb hardware</code> command does not include the blackhole MAC address.
PD4-757563008	After hot swapping an MM-A, the output for the <code>show power budget</code> command shows the wrong power information.
PD4-717942168	FDB entries are not learned for L2 broadcast traffic after an MM failover.
PD4-861903871	<p>After loading image ExtremeXOS 12.3.2.5 on a BlackDiamond 20808 switch, the <code>show log</code> command output shows the following error:</p> <pre>&lt;Erro:HAL.Sys.Error&gt; MM-B: Unable to get odometer for power supply 5</pre> <p>The same log error is displayed when a failover occurs on MM-A.</p>
PD4-851358292	During a firmware upgrade, the "watchdog expiration warnings" and "kernel thread stuck" messages may appear on an MM console.
PD4-843054490	Fans are going in to a failed/empty state and I/O modules are powered off after upgrading firmware on a BlackDiamond 20808 using the force option.
PD4-845017407	<p>The following error is seen when running the <code>install firmware</code> command on a GM-40XB module in a BlackDiamond 20808 switch:</p> <pre>&lt;Erro:HAL.Card.PowerStateError&gt; MM-A: A request to power down slot 8 failed - returning a completion code of -1.</pre>
<b>Summit Family Switches</b>	
PD4-1826865131	Combo ports may not retain saved configurations during an upgrade or downgrade. After upgrading a switch running ExtremeXOS 12.3 or earlier software to ExtremeXOS 12.4 or later, saved configurations from combo ports (copper or fiber) are applied only to combo ports fiber medium. After downgrading from ExtremeXOS 12.4 or later to ExtremeXOS 12.3 or earlier, saved configurations from combo ports (copper or fiber) are silently ignored.
PD4-1828079231	A Summit X480 crashes when trying to configure a subVLAN.

**Table 40: Known Behaviors, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD3-77711042	The Priority column should not display in the output of the <code>show inline-power configuration</code> CLI command when running the command on a Summit X450-24p PoE switch.
PD3-201233169	A condition exists with some Mitel IP phones that are attached to an ExtremeXOS PoE enabled platform that requires that you disable and enable inline power in order for the phone to become active.
PD3-77711011	The word "slot" should not be included in the output of the <code>show inline-power stats</code> command.
PD3-131375426	Configuring autopolarity does not work on the combo ports on the Summit family switches.
PD3-166858162	On a Summit X250e-24x switch, if one of the combo ports is redundant to a front panel port, after rebooting, the second combo port does not come up if the primary port for the SRP is active.
PD4-375560851	When configuring or unconfiguring a mirroring loopback port, the user may notice several unexpected port state transitions on a Summit X650 switch.
<b>ACL</b>	
PD3-77983510	<p>Summit X450a and Summit X450e series switches and BlackDiamond 8800 a-series and e-series modules provide more powerful ACL capabilities. Because of this, the amount and complexity of ACL rules will naturally impact the time needed to process and apply the ACL rules to the switch. This will also impact switch bootup time. Access Control List limitations fall into two areas: physical and virtual.</p> <p>Physical Limits—Summit X450a and Summit X450e series switches:</p> <p>The per-VLAN, wildcard (port any), and single-port access list installation limitations are 1,024 rules for the Summit X450e and 2048 rules for the Summit X450a.</p> <p>Physical Limits—BlackDiamond 8800 a-series and e-series modules:</p> <p>The per-VLAN, wildcard (port any), and single-port access list installation limitations are 1,024 rules for the e-series modules, and 2048 rules for the a-series modules.</p> <p>Extreme Networks recommends that you configure ACLs as per-VLAN, wildcard, or single-port. If either of the following is true, you will have to configure ACLs with multi-port lists:</p> <p>Your application requires that ports do not have a homogeneous ACL policy.</p> <p>When BlackDiamond 8800 original series modules are operational in the same chassis, it may be necessary to configure ACLs to specific port-lists instead of as wildcard or per-VLAN. This is because the original series modules have smaller physical limits.</p> <p>Virtual Limits—Summit X450a and Summit X450e series switches:</p> <p>When configuring a multi-port ACL, use the following guideline. The total ACL count (as calculated by ACL rules times ports applied to) should not exceed 48,000 total ACL rules.</p> <p>For example, applying a 1,000 rule policy file to a 48 port multi-port list is supported (1,000 rules * 48 ports in the list &lt;= 48,000).</p> <p>Virtual Limits—BlackDiamond 8800 a-series and e-series modules:</p> <p>When configuring a multi-port ACL, use the following guideline. For any a-series or e-series blade in the system, its total ACL count (as calculated by ACL rules times ports applied to) should not exceed 48,000 total ACL rules.</p> <p>For example, applying a 1,000 rule policy file to a 48 port multi-port list on an a-series module on slot 1 and an e-series module in slot 2 is fine. Neither module exceeds the 48,000 total ACL rules.</p> <p>Excessive boot times and CPU resource starvation can be seen with larger total rule counts. If your application requires additional capacity, contact Extreme Networks.</p>
<b>IP Routing Protocols</b>	
PD4-1243529018	ICMPv6 Too Big message is not sent when discarding IPv6 packets larger than outgoing ip-mtu

**Table 40: Known Behaviors, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
<b>MPLS</b>	
PD4-486972363	Bandwidth for the detour LSPs are calculated from the PLR node to the egress node, and not from the PLR node to the MP. Therefore, detour LSP is signaled only when there is enough bandwidth that is equal to or greater than the requested bandwidth for the detour LSP from the PLR node to the egress node.
PD4-1072411171	Performing an SNMP get on <code>vplsConfigVpnId</code> may return the same value when configuring a larger pseudo-wire ID value.
PD4-1329832557	An EXP examination and replacement configuration is retained after a user deletes MPLS from a current VR and adds it to another VR. <b>Workaround:</b> Use the <code>unconfigure MPLS</code> command before deleting MPLS from the VR that is currently running MPLS, then add MPLS to a different VR.
PD4-822663105	Uploading or downloading a configuration results in an MPLS configuration being lost as MPLS is not deleted from the VR-Default.
PD3-208178928	Adding a static route with an MPLS LSP may cause one of the following problems: <ul style="list-style-type: none"> <li>If a static route is added with an MPLS LSP whose transport setting is "IP traffic deny," the route is displayed with an invalid nexthop in the <code>show iproute mpls</code> command output.</li> <li>When a static route is added with an MPLS LSP that is not present in <code>show iproute mpls</code> command output. For example, if there are 17 RSVP-TE LSPs to the same destination, only 16 LSPs are eligible for carrying traffic because of a maximum ECMP path limit of 16. Adding static routes with 17 LSPs results in the same observation.</li> </ul>
<b>Multicast</b>	
PD3-2841008	With PIM, when small-sized multicast streams are ingressed at line rate, there is an initial packet drop of 50% to 70%. This is seen on BlackDiamond 8800 and Summit X450 switches.
PD4-901778542	The command <code>mrinfo &lt;neighbor ipaddress&gt; from &lt;source ipaddress&gt;</code> is not displaying the entire interface when the source IP address is changed.
<b>Spanning Tree Protocol</b>	
PD4-1161434651	MSTP edge ports are not correctly learning MAC addresses. <b>Workaround:</b> To clear the wrong MAC address learned on the edge port, run the <code>clear fdb</code> command. You may also wait until the FDB is automatically refreshed (default refresh value is 300 seconds).
PD4-1238838391	Process stp signal 11 code: Program terminated with signal 11, Segmentation fault.
PD4-492384091	When scaled to the maximum number of Rapid Spanning Tree Protocol (RSTP) domains with EMISTP port mode, an IGMP packet loops for a short period of time when a link flap occurs.

## Resolved Issues in ExtremeXOS 12.4.4-patch1-9

The following issues were resolved in ExtremeXOS 12.4.4-patch1-9. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.6, ExtremeXOS 12.2.2-patch1-12, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 41: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1600530241	A HAL crash with signal 11 occurs when connecting a ReachNxt device to a load-shared port.
PD4-2012884711	The following critical message may be logged followed by a system crash when making a configuration change to a private VLAN: <code>System call ioctl failed failed: informCfgVlanAddPorts and 15</code>
PD4-2077574941, PD4-1244836411	RIP advertises routes for a VLAN even though the VLAN does not have any active ports.
PD4-2300925437, PD4-2298873324	After upgrading a switch from ExtremeXOS 11.6 to ExtremeXOS 12.3 with a specific configuration, a memory leak occurs in the EMS process.
<b>BlackDiamond 8900 Series Switch</b>	
PD4-2304431538	On a BlackDiamond 8900 c-series switch with an 8900-G96T-c module, an ACL installation fails when using more than 32 LAG ports.
<b>OSPF</b>	
PD4-2302994041, PD4-1159043115	If active ports are added to a VLAN before configuring IP forwarding using the <code>enable ipforwarding</code> command, the direct route is not redistributed into OSPF.
PD4-2271653860, PD4-2235844842	Using a specific configuration, OSPF neighbors may become a designated router even though the switch only has an Advanced Edge license.

## Resolved Issues in ExtremeXOS 12.4.4-patch1-7

The following issues were resolved in ExtremeXOS 12.4.4-patch1-7. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.6, ExtremeXOS 12.2.2-patch1-12, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 42: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-2040737205	Redundant port configuration is blocked after unconfiguring a slot on a primary port.
PD4-2012411531	BlackDiamond series and Summit family switches do not examine dot1p inner tags with a LAG.
PD4-2217829621	Using a third party chassis, an SNMP subagent crashes with signal 6 when performing an SNMP MIB walk in an LLDP table.
PD4-2192405747, PD4-2052811367	A system experiences a crash when replacing option 82 parameters in a DHCP packet.

**Table 42: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-2219415423, PD4-2213319763	HAL stack utilization is approximately 98% and a stack overrun crash occurs when repeatedly configuring and unconfiguring an ACL with traffic.
PD4-2204361206	An etmon process crash followed by an MSM failover occurs when receiving a corrupted packet from EPICenter.
PD4-2115835463	The date format <code>Mmm-dd</code> in syslog messages does not match the RFC 3164 standard.
PD4-1961884891	A configuration created with UPM in non-persistent mode cannot be made persistent by issuing CLI configuration commands.
PD4-2087108234, PD4-1394637671	A switch updates DHCP clients with <code>dhcp-lease-timer</code> instead of <code>netlogin-lease-timer</code> if the <code>dhcp-lease-timer</code> value is changed.
PD4-2101532349	The AAA process may crash with signal 6 when a user is connected to a switch using SSH and RADIUS is used for the user authentication.
PD4-1884523881	The following error message is displayed when running the refresh policy command using a policy file that contains a redirect action:  <code>Error: Refresh failed for policy 'RadIPRedirect'- unavailability of hardware resource or system error" in some cases.</code>
<b>BlackDiamond 10800 Series Switch</b>	
PD4-2197499904, PD4-2037865872	sFlow throttling messages are logged even if the incoming packet rate is less than the sFlow sampling rate.
<b>BlackDiamond 12800 Series Switch</b>	
PD4-2244622468, PD4-2244463201	Some BlackDiamond 12800 series MSM-6R modules cannot be upgraded to ExtremeXOS 12.4 or later.
<b>Summit Family Switches</b>	
PD4-2243980198, PD4-2176524961	L3 traffic is forwarded in slowpath when a switch has CFM configured.
PD4-2221727059, PD4-2221702811	A Summit X450a switch reboots when receiving OAM packets larger than 60 bytes.
<b>SummitStack</b>	
PD4-2209090649, PD4-1771248139	In some cases, an SSH key may not be check pointed to backup node on a SummitStack.
PD4-2057876228	UPM profile execution status remains in running state after a SummitStack failover.
<b>OSPF</b>	
PD4-2087108112, PD4-1196732534	Receiving an OSPF LSA ACK message with an invalid LSA type value causes an assertion failure in the OSPF process.
<b>Spanning Tree Protocol</b>	
PD4-2177745602, PD4-2142352206	A switch reboots when auto-binding a management VLAN to STPD s0.
PD4-2049698903	An STP topology change notification may be sent when an edge-safeguard enabled port comes up.  <b>Workaround:</b> Disable and enable edge-safeguard by running the following commands:  <code>configure stpd &lt; domain-name &gt; ports edge-safeguard disable &lt;port-list&gt; configure stpd &lt; domain-name &gt; ports edge-safeguard enable &lt;port-list&gt;</code>



## Resolved Issues in ExtremeXOS 12.4.4-patch1-5

The following issues were resolved in ExtremeXOS 12.4.4-patch1-5. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.6, ExtremeXOS 12.2.2-patch1-12, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 43: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-2093639778	After making STP configuration changes on a switch, RSTP root bridges send hello BPDU every 4 seconds when the switch is configured for every 2 seconds.

## Resolved Issues in ExtremeXOS 12.4.4-patch1-4

The following issues were resolved in ExtremeXOS 12.4.4-patch1-4. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.6, ExtremeXOS 12.2.2-patch1-12, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 44: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1970043078	In a private VLAN, a static IP ARP entry is incorrectly associated with a subscriber VLAN.
PD4-1437616911	When running the <code>configure ports medium &lt;fiber/copper&gt; auto &lt;on/off&gt; speed &lt;speed&gt; duplex &lt;half/full&gt;</code> command, the command is not retained when a switch reboots.
PD4-2028980655, PD4-1900406099	In a private VLAN, broadcast packets are not forwarded after a network VLAN port is changed to a shared port.
PD4-1990369509, PD4-1751958424	In CLI scripting, \$READ inside a loop is not working and displays the following error: <code>Incorrect READ syntax Error: Read syntax</code>
PD4-1927210571	A supplicant attached to a network login port on an Extreme switch is not receiving EAPS FAIL messages if RADIUS is unavailable.
PD4-2073557597, PD4-2053914004	Traffic on an ESRP master or member VLAN is forwarded in slowpath, which results in high CPU utilization when hardware ARP limits are exceeded.
PD4-2033837826, PD4-1441107715	The FDB process dies with signal 11 when creating a blackhole entry for a MAC address authenticated by network login.
<b>BlackDiamond 8800 Series Switch</b>	
PD4-2049272668	L2 traffic is being flooded even though the destination MAC is learned on the port.
<b>BlackDiamond 12800 Series Switch</b>	
PD4-2068851844	A port is removed from a load sharing group after an MSM failover after increasing the number of multicast data packets hitting a CPU because of an invalid rendezvous point (RP), or other failure.

**Table 44: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
<b>Summit Family Switches</b>	
PD4-1507934866	The file generated by the <code>show tech all logto file</code> command contains a broken configuration line.
<b>DHCP</b>	
PD4-1372389708	Running the <code>upload ip-security dhcp-bindings</code> command fails with the following error:  Object <code>dhcpBindingsUpload</code> does not support method <code>set</code> .
<b>IGMP</b>	
PD4-2051283879, PD4-1374138231	The configured IGMP query interval timer does not take effect immediately. The timer takes effect only after the current interval expires.
<b>OSPF</b>	
PD4-1493257018	The forwarding address in an external LSA should not be set for an interface that is configured as passive.
<b>Spanning Tree Protocol</b>	
PD4-1780972901	Renaming a VLAN and deleting the STP domain to which it has an auto-bind relation, and auto-binding it to a new STP domain displays the following error:  Error: Cannot enable auto-bind for vlan v2 to STP domain s2, it is the carrier vlan of STP domain s1

## Resolved Issues in ExtremeXOS 12.4.4-patch1-2

The following issues were resolved in ExtremeXOS 12.4.4-patch1-2. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.6, ExtremeXOS 12.2.2-patch1-12, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 45: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1963836921	Direct routes exported to RIPng are not removed from the routing table after disabling RIPng. Also, the route count of routes exported to RIPng are shown incorrectly when running the <code>show iproute ipv6</code> command.
PD4-1409846531	The <code>icmp-type match</code> condition for ICMPv6 is not supported on Summit family and BlackDiamond 8800 series switches.
PD4-1933787279	The Node Manager process consumes excessive CPU usage on a backup MSM when the system uptime reaches 994 days.
PD4-1981933632, PD4-1374774241	The SNMP OID <code>extremeCurrentTemperature</code> does not return the current temperature of a switch. This is also seen when accessing the switch using ScreenPlay.
PD4-1981365201, PD4-1870786111	Running the <code>disable netlogin port &lt;slot:port&gt;</code> command while the slot is down causes the switch to drop the packets received on that port in hardware if the ethernet-source-address is not learned. This affects EAPSV1 control packets because the ethernet-source-address in the EAPSV1 control packets is a special MAC and will never be learned.



**Table 45: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
<b>BlackDiamond 8800 Series Switch</b>	
PD4-1936494545	After running an MSM failover, the MAC addresses for the IP DAD entries are flushed and not displayed. This does not affect IP DAD functionality.
PD4-1688446379	FDB entries learned via LAG are not included in the output of the <code>show fdb stats ports all</code> command.
PD4-1984639923, PD4-1983542737	VLAN switch fabric hardware programming fails to reprogram a trunk to the correct unit on an I/O module after an unexpected failover occurs.
<b>Summit Family Switches</b>	
PD4-1985805842, PD4-1983309381	Summit X460 and X480 switches fail to display the switch serial number due to EEPROM corruption.
PD4-1661214241	A Summit family switch does not send a PSU related SNMP trap when a secondary PSU fails.
PD4-1776441950	Software-controlled redundant ports may cause loops if a port is configured for redundancy after it is associated with an existing VLAN.
<b>SummitStack</b>	
PD4-1981255870, PD4-1229634794	LACP packets are corrupted if the master port is mirrored on a SummitStack.

## Resolved Issues in ExtremeXOS 12.4.4

The following issues were resolved in ExtremeXOS 12.4.4. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.5, ExtremeXOS 12.2.2, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 46: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1943788332, PD4-1920719829	CLEAR-Flow rules are not getting hit when a match condition is configured for <code>byte-count</code> .
PD4-1466022175	When an SNMP query is issued for non-existent IPv4 routes, the RtMgr process crashes with signal 11.
PD4-1956914209, PD4-1937052478	Telnet access profiles are blocking all IPv6 telnet connections.
PD4-1957143087, PD4-1034683284	You cannot load a script using a flow-redirect configuration when a VLAN is down.
PD4-1887144111, PD4-1155806118	When an unknown vendor ID is sent in a RADIUS accept packet, the log message does not print the unknown vendor ID.
PD4-1887057001	Running the <code>configure flow-redirect &lt;redirectname&gt; no-active/health-check</code> command resets a configured VR to a VR-Default.  <b>Workaround:</b> Run the <code>configure flow-redirect &lt;redirectname&gt; vr</code> command after configuring the <code>configure flow-redirect &lt;redirectname&gt; no-active/health-check</code> command.
PD4-1835754679, PD4-1177495965	XML API allows a user to create several VLANs using the same VLAN tag.

**Table 46: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-913229871	API queries for RADIUS and TACACS do not return any values. Set is working properly, but a get returns empty.
PD4-1008390701	If a trunk port is configured with a PVLAN end-point, the port is not shown in the output of the <code>show vlan &lt;non isolated&gt; vlans</code> command. Therefore, traffic does not flow from a switch without a PVLAN end-point in the same VLAN.
PD4-1920100037, PD4-1918575400	FDB process crashes with signal 6 when a superVLAN or subVLAN name contains 15 or more characters.
PD4-1857823251	A mismatch between a PIM multicast cache and a hardware binding results in traffic loss.
<b>BlackDiamond 8800 Series Switches</b>	
PD4-1921505287, PD4-1548261276	On a BlackDiamond 8800 series switch, traffic is not being redirected by the primary LACP port when the secondary MSM with secondary ports are rebooted on LACP during a process kill.
PD4-1917632152, PD4-1161605948	A BlackDiamond 8800 series switch reports the wrong port number when applying a VLAN ACL to a port group containing insufficient masks.
<b>BlackDiamond 20800 Series Switches</b>	
PD4-1356143799	BVLAN bandwidth is not shared evenly, but randomly, when one port from an SVLAN and a CVLAN are sending the line rate traffic with the same priority. A traffic drop may also be seen on one of the traffic streams when the other is stopped.
PD4-1300795581	IP fragmentation is not occurring when enabling jumbo frames on a BlackDiamond 20800 series switch.
PD4-1230894831	When installing the ExtremeXOS image, watchdog EPC ( <code>csd_flag_wait+0x18/0x28</code> ) occurs and may cause a crash. <b>Workaround:</b> Stop traffic when installing new ExtremeXOS image.
<b>Summit Family Switches</b>	
PD4-1926408361, PD4-1231665209	The output for the CLI command <code>show odometer</code> always shows values in the option card field even though there is no option card in the switch.
PD4-1419136822	On a Summit X450a-24x switch, disabling two or more ports causes a port that is inserted as a 10/100/1000BASE-T SFP module to flap.
PD4-1838754211	Power status is not displayed on a Summit X650 switch in ScreenPlay if both PSUs are present but only one is powered on.
PD4-1860402906	Users cannot create a user virtual router on Summit X480 stackable switches.
PD4-1854155001, PD4-1578760166	Duplicate BOOTP OFFER and ACK packets are seen when ip-security dhcp-snooping is enabled on a port. <b>Workaround:</b> Disable ip-security dhcp-snooping to prevent duplication of DHCP OFFER and ACK packets.
PD4-1102582531	In a PVLAN, network login MAC-based authentication does not work in ExtremeXOS 12.4.0.19.
PD4-1488841268	Traffic destined for a known MAC address in a member VLAN is being flooded on the ports of the network VLAN.
<b>OSPF</b>	
PD4-1835364924, PD4-1394061328	ABR stops translating AS external routes (type 7) to another area (type 5) after OSPF is configured with graceful restart.
<b>SNMP</b>	
PD4-1517268938	SNMP get-next of <code>extremeCpuMonitorSystemTable</code> does not include both primary and backup nodes.

## Resolved Issues in ExtremeXOS 12.4.3-patch1-5

The following issues were resolved in ExtremeXOS 12.4.3-patch1-5. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.5, ExtremeXOS 12.2.2, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 47: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1823016071, PD4-1090889907	High CPU utilization messages are not logged while SNMP traps are sent.
PD4-1867797741	An LX mini-GBIC is incorrectly detected as an FX/LX mini-GBIC. This applies only to Summit family switches and BlackDiamond 20800 series switches.
PD4-1815606257, PD4-896535258	When a banner configuration file stored in a Windows environment is loaded, the banner configuration is not restored properly.  Note: After unconfiguring a switch, the system banner message cannot be restored using a saved configuration.  <b>Workaround:</b> Reconfigure the banner message.
PD4-1821932411	The following directories are viewable in a browser window when Web HTTP is enabled: <ul style="list-style-type: none"> <li>• /scripts</li> <li>• /images</li> <li>• /assets</li> <li>• /com</li> </ul>
PD4-1851014168, PD4-1323337297	A switch will experience memory depletion due to HAL process when sending L2 traffic to a PVLAN with continuous SA increment.
PD4-1813267523, PD4-1239811496	Deleting a VLAN does not cleanup route entries learned by RIP through the VLAN.
PD4-1847511220	When running the SSH process (exsshd), CPU usage is excessive and some SSH sessions are not cleared.
<b>BlackDiamond 8800 Series Switch</b>	
PD4-1828332180, PD4-1147104931	A BlackDiamond 8800 series switch takes more than 30 minutes to boot up with VLAN aggregation configured.
PD4-1854613879	On a BlackDiamond 8800 series switch, multicast packets are sent directly to the CPU instead of being forwarded in hardware.
<b>BlackDiamond 20800 Series Switch</b>	
PD4-1536990491	When a BlackDiamond 20800 series switch is an EAPS master, port QP1 increments instead of port QP8.
<b>Summit Family Switches</b>	
PD4-1506829269	On Summit family switches, ethernet loopback tests fail when running extended diagnostics without an active management port.
PD4-1254695518	When deleting a port from an ELRP configured VLAN, the switch displays errors after running the <code>save</code> and <code>reboot</code> commands.
PD4-1813046514	DHCP snooping log messages display the incorrect port information when a LAG violation occurs.

**Table 47: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
<b>SummitStack</b>	
PD4-1814857343, PD4-580973662	Unconfiguring a management IP address removes the default route configured using the <code>configure stacking alternate-ip-address [&lt;ipaddress&gt; &lt;netmask&gt;   &lt;ipNetmask&gt;] &lt;gateway&gt; automatic</code> command.
<b>IGMP</b>	
PD4-1299135401	Multicast traffic is dropped with an EAPS shared port configuration during an EAPS topology change.
<b>OSPF</b>	
PD4-1842342899, PD4-1524171924	Not all of the AS external routes in OSPF are getting installed in the route table.

## Resolved Issues in ExtremeXOS 12.4.3

The following issues were resolved in ExtremeXOS 12.4.3. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.5, ExtremeXOS 12.2.2, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 48: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1084698943, PD4-977234454	Configuring UPM profiles to include the <code>show port info detail</code> command results in the <code>show profile history</code> command output showing the status as failed.
PD3-71725881	When configuring an optional name for the time zone/DST, the time zone name truncates at seven characters. The system default is six characters.
PD4-1789156831	The following note has been added to the "Managing DHCP/BOOTP Relay" section of the "IP Unicast" chapter of the <i>ExtremeXOS Concepts Guide</i> . It has also been added to the Usage Guidelines for the <code>enable bootprelay</code> command in the <i>ExtremeXOS Command Reference Guide</i> :  Note: If DHCP/BOOTP Relay is enabled on a per VLAN basis, make sure it is enabled on both the client-side and server-side VLANs.
PD4-1741718115, PD4-1107340401	When TACACS is used for user authentication, the log message shows the wrong IP address of the user being authenticated.
PD4-1758727874, PD4-1517323275	The SSH process (exsshd) consumes 99% of CPU usage when running the <code>clear session</code> command after abruptly closing an SSH session (xterm client only).
PD4-1741274969	A switch crashes with <code>soc_dma_done_desc</code> in the NVRAM dump.
<b>BlackDiamond 8800 Series Switch</b>	
PD4-1801215011, PD4-1727668151	On BlackDiamond 8800 series switches, SummitStack, and Summit family switches that are supported by this software release, meters are a per-VLAN resource. For example, if you assign a 50 Mbps meter to a VLAN, the total throughput for all ports in that VLAN is limited to 50 Mbps.
PD4-1703399239, PD4-962149281	The output for the <code>show configuration etmon   detail</code> command does not show the disabled sFlow port.

**Table 48: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
<b>Summit Family Switches</b>	
PD4-1408048258	If stacking is enabled on a Summit X480 switch, MPLS commands are not supported in ExtremeXOS 12.4. If the switch is a standalone system, MPLS is supported. This limitation applies to ExtremeXOS 12.4 software only.
<b>ACL</b>	
PD4-1825834531, PD4-1809345751	The HAL process dies with signal 11 if the refresh policy fails and the following error is displayed.  Unable to find the flow redirect used with the redirect-name keyword, policy not installed
<b>ESRP</b>	
PD4-464792522	A load-shared port in a host attach configuration is deleted without a warning or error when sharing is disabled on the port.

## Resolved Issues in ExtremeXOS 12.4.2-patch1-10

The following issues were resolved in ExtremeXOS 12.4.2-patch1-10. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.5, ExtremeXOS 12.2.2, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 49: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1738654737, PD4-1738654681	ExtremeXOS software does not correctly recognize the following mini-GBIC modules: <ul style="list-style-type: none"> <li>100FX/1000LX dual speed SFP, part number 4050-00020-02</li> <li>100FX SFP, part number 4050-00030-03</li> </ul>
PD4-1695304439	After configuring an EMS xml-notification target, the name of the target is not included in the output of the <code>show configuration</code> command.
<b>Summit Family</b>	
PD4-1519936031, PD4-1179290841	A kernel-error and reboot loop error occurs when upgrading a switch from ExtremeXOS 12.3.3.6 to ExtremeXOS 12.4 when an ACL is configured as a super VLAN.
PD4-1679170868	On a Summit X480 switch, the system watchdog may reboot if the <code>disable iproute sharing</code> and <code>enable iproute sharing</code> commands are run in quick succession with an excessive number of BGP routes (more than 512,000) installed in the routing table. The system may also experience a BGP process crash if the <code>disable bgp</code> and <code>enable bgp</code> commands are run in quick succession using an excessive number of BGP routes (more than 300,000) installed in the routing table.  <b>Workaround:</b> Allow 5 minutes between running the <code>disable</code> and <code>enable</code> commands if these commands are run in succession.

**Table 49: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-1687280681	IP multicast packets received on a service vMAN/VLAN may not be flooded through a VPLS tunnel. <b>Workaround:</b> Add the service vMAN/VLAN port to any IGMP snooping enabled VLAN and delete the port from that VLAN. For example: <pre>configure vlan default add port 21 tagged configure vlan default del port 21</pre>
<b>ACL</b>	
PD4-1758727406, PD4-1274429658	Configuring a dynamic ACL with flow-redirect does not work after a switch reboot. <b>Workaround:</b> After rebooting the switch, delete and add the ACL.
<b>BGP</b>	
PD4-1701554204	BGP and MSDP may not establish a secure TCP connection to their peers when an encrypted password contains a special character such as #.
<b>IGMP</b>	
PD4-1756680348, PD4-1453474837	IGMP membership query packets are seen on a port when IGMP is disabled but IGMP snooping is enabled. To resolve this issue, run the <code>disable igmp proxy-query vlan &lt;vlan-name&gt; command</code> .

## Resolved Issues in ExtremeXOS 12.4.2-patch1-8

The following issues were resolved in ExtremeXOS 12.4.2-patch1-8. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.5, ExtremeXOS 12.2.2, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 50: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1677893691	A telnet connection may be abruptly closed by a switch when multiple telnet connections are consecutively initiated in a short period of time.
PD4-1668104370, PD4-1636210325	The following error message is displayed after running the <code>ping</code> command and abruptly closing 10 or more Telnet/SSH sessions.  <pre>Error: Too many concurrent ping requests.</pre> <b>Workaround:</b> Restart the netTools process.
PD4-1555469451	DHCP Option 82 packets are dropped if VPLS is enabled on an egress interface.
PD4-1417613295	The help text for the <code>configure fdb vpls agingtime</code> command displays the wrong possible values.
<b>BlackDiamond 8800 Series Switch</b>	
PD4-1628976787, PD4-966386662	Local multicast packets (packets destined for a well known reserved multicast address such as 224.0.0.x) are flooded in hardware for BlackDiamond 8800 series and Summit family switches
PD4-1678739911, PD4-1655256488	BlackDiamond 8800 series switches report "conduit failures" during bootup if the switch is configured with diffserv replacement enabled for more ports, as well as diffserv replacement mapping.

**Table 50: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-1646617211	When rebooting a BlackDiamond 8800 series switch, ports remain active for approximately 10 seconds.
<b>BlackDiamond 12800 Series Switch</b>	
PD4-1735044517, PD4-1083288117	Disabling and re-enabling a port that is configured for 100 Mbps full duplex with an attached dual speed SFP (100FX/1000LX) results in connectivity issues.  Note: Also see PD4-1736184341.
<b>BlackDiamond 20800 Series Switch</b>	
PD4-1634368701	Running the <code>debug eaps check configuration</code> command on a BlackDiamond 20808 series switch with an EAPS configuration may result in an EAPS process crash.  <b>Workaround:</b> Do not run the <code>debug eaps check configuration</code> command.
<b>Summit Family Switches</b>	
PD4-1572169451	Power cycling a stack node causes a packet drop of 8 seconds in some rare scenarios even though LAG is configured across stack nodes.
PD4-1276532265,	The stacking port LEDs on the front and rear panel of a SummitStack do not light if you remove and reconnect the stacking cable.
PD4-1168419021	When running diagnostics on a Summit X650 switch, an intermittent error is reported on MAC and PHY loopback with VIM1-SummitStack256 modules. This applies to the following Summit switches: X150, X250e, X350, X450e, X450a, and X650.
PD4-1676753263, PD4-1240910931	The <code>cfgmgr</code> crashes with signal 11 due to NULL pointer access.
PD4-1633791881	On a Summit X480 switch, when a VPLS service VLAN port is changed to a load-shared port, traffic ingressing the load-shared port is dropped.
<b>ARP</b>	
PD4-1440442939	A BlackDiamond 20800 series switch forwards traffic with the wrong MAC address after receiving a gratuitous ARP request.
<b>EAPS</b>	
PD4-1673032250, PD4-1676753651	EAPSV2 segment health-check packets received on a ring port may be dropped if the EAPS node on a Summit family or BlackDiamond 8800 series switch has a different EAPS shared port on any other ring ports.
<b>ESRP</b>	
PD4-1666639821, PD4-1523194585	On an ESRP master switch, the status of an IPv6 interface remains "tentative" on some of the ESRP member VLANs.
<b>IGMP</b>	
PD4-1641278235	When a switch is an IGMP querier, a group specific query is sent to all the ports in the VLAN whenever an IGMP leave is received on one port.
<b>Multicast</b>	
PD4-1676377023, PD4-1446804247	Multicast traffic is showing the incorrect dot1p replacement for CPU (slowpath) forwarded packets with TOS bits set at 7.
<b>RIP</b>	
PD4-1325327893, PD4-1081411076	The CLI allows RIP configurations for L2 VLANs. After completing a RIP configuration, running the <code>show rip interface</code> command causes the RIP process to die with signal 11.
PD4-1649110991, PD4-1646433497	RIP fails to re-distribute a route with a path cost of more than 15, even if the configured protocol export metric is non-zero.



**Table 50: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
<b>SNMP</b>	
PD4-1598272292	The snmpMaster process crashes with signal 11 on NULL pointer access.
PD4-1328651560	The CLI command <code>disable snmpv3 user default-user</code> does not disable default user access.
PD4-1395832491	The SNMP query for the OID "extremePowerSupplySerialNumber" always returns an error.
<b>Spanning Tree Protocol</b>	
PD4-1696989826, PD4-863165251	When using a 32-character VLAN, the VLAN cannot be added to STP; the last character is removed.
<b>VRRP</b>	
PD4-1675307581, PD4-1664819101	VRRP gateways may get stuck in a dual master state when VRRP is run on a secondary IP falling under the same address class as the primary, but in a different subnet.

## Resolved Issues in ExtremeXOS 12.4.2-patch1-5

The following issues were resolved in ExtremeXOS 12.4.2-patch1-5. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.5, ExtremeXOS 12.2.2, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 51: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1641609129, PD4-812156545	The CLI command <code>show fdb &lt;name of private vlan&gt;</code> output loops for specific MAC addresses.
PD4-1628360609, PD4-984712040	A UPM process crash occurs after a valid 802.1x authentication if the incorrect syntax is used in the network login security profile. <b>Workaround:</b> Remove the extra semicolon mentioned in the authentication profile string.
PD4-1625916850	When using BlackDiamond 8800 series switches or Summit family switches that support user VRs, IP multicast packets are slowpath forwarded with the default VLAN using the default configuration. <b>Workaround:</b> Change the VLAN tag of the default VLAN.
PD4-1590368811, PD4-1389918131	After booting up a switch, the <code>configure radius [primary   secondary] server</code> command fails when specifying a virtual router using the <code>vr</code> keyword.
PD4-1374774272	When using ISIS, you cannot set a metric value as 0 for export routes.
PD4-1600524741, PD4-1323337281	When copying and pasting a CLI command that begins with a bullet, the cliMaster crashes with signal 11 when the bullet is included as part of the command.
PD4-1627560333, PD4-1276238939	A default value of "Link up/down SNMP trap filter setting" for a port is not shown in the output of the <code>show configuration vlan detail</code> command.
PD4-1584840395, PD4-941257511	Slowpath traffic may cause SNTP packets to experience delayed processing on an ExtremeXOS switch and generates the following error message:  <Noti:DM.Notice> Slot-1: Setting hwclock time to system time, and broadcasting time



**Table 51: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-1602297969, PD4-1517702664	When a Summit x480 switch is connected to a third party switch with H-VPLS peers, and the link is disabled/enabled between the switches, the LDP peers flap for an extended period of time with keep-alive timer expired errors.
<b>BlackDiamond 8800 Series Switch</b>	
PD4-1633773021	There is a potential for a <code>smbus_xfer:1 smbus_wait_rdy</code> error with frequent SSH, and telnet management login/logout sessions.
<b>BlackDiamond 10800 Series Switch</b>	
PD4-1641608965, PD4-1108500108	On a BlackDiamond 10800 switch with dual MSMs and a G20X module, CLEAR-Flow delta rules may be triggered on the backup MSM when not needed.
PD4-1586364405, PD4-1566158665	On a BlackDiamond 10800 series switch, an MSM failover results in too many SNMP traps ( <code>extremePortMauChangeTrap</code> ) being sent.
<b>BlackDiamond 20800 Series Switch</b>	
PD4-1641609177, PD4-822226531	The following error message is logged during an MSM failover on a BlackDiamond 20800 series switch:  <code>&lt;Warn&gt; Function pointer is not supported. Caller: 0x42e6b8 Parm1: 0x107f24a0 Parm2: 0x108490a0</code>
PD4-1409776545	When receiving a specific CFM packet, the switch displays the following error message:  <code>Error: can't read xmlData.</code>
<b>Summit Family Switches</b>	
PD4-1634882151, PD4-1634368131	When multiple FDB entries share a common set of egress ports spread across units, traffic to certain MAC addresses may not be forwarded on all the ports (ESP ports on alternate units).
PD4-1629547723, PD4-1095983624	When applying an ACL on a Summit X450a switch, the following error is generated:  <code>Error: ACL install operation failed - slice hardware full for port.</code>
PD4-1621116096, PD4-1229411629	No error message is generated on a Summit X450 switch when applying a secondary ethertype (not 8100) on a tagged vMAN or VLAN port.
<b>SummitStack</b>	
PD4-1585599578, PD4-1049718893	On a SummitStack, WAN-PHY error counters are not correct on the backup or standby node.
PD4-1584840419, PD4-1236337241	UPM becomes active before configuration check pointing is complete, causing the UPM script to fail.
<b>BGP</b>	
PD4-1449255294	A switch sends a BGP withdrawn message even though it has an alternate route.
<b>OSPFv3</b>	
PD4-1386631981, PD4-1313201611	OSPFv3 process crashes when an ASBR that was reachable through multiple areas goes down.
<b>SNMP</b>	
PD4-1491778548, PD4-1578876722	<code>snmpSubagent</code> process crashes with signal 11 when creating a row in the <code>pingCtlTable</code> with a <code>pingCtlTestName</code> length greater than 32 bytes.  <b>Workaround:</b> Use <code>pingCtlTestName</code> with a length less than 32 bytes.
<b>Spanning Tree Protocol</b>	
PD4-1637570461, PD4-1598240578	STP crashes when making topology changes to a domain name containing more than 29 characters.  <b>Workaround:</b> Use STP domain names that are less than 30 characters.

**Table 51: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-1531283743	After setting dot1dStp SNMP OIDs, the switch experiences an STP process crash with signal 11.

## Resolved Issues in ExtremeXOS 12.4.2-patch1-3

The following issues were resolved in ExtremeXOS 12.4.2-patch1-3. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.5, ExtremeXOS 12.2.2, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 52: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1562364701	When the <i>udp-profile</i> is used to forward traffic to a destination-ipaddress, a memory leak is observed in <i>ip_dst_cache</i> .
PD4-1422715218	When a switch receives a telnet <i>break</i> command, the telnetd/exsh process crashes with signal 3.
PD4-1289183953	HAL process dies with signal 6 when issuing the <i>debug hal show ipv4mc gaddr</i> command with an invalid IP address.
PD4-1509628441	When sending VPLS traffic for approximately 100 E-LANs, traffic for one of the E-LANs may get lost.
PD4-1523638899, PD4-1142795450	The ExtremeXOS CLI may allow load sharing groups to be formed using ports with different link speeds.  <b>Workaround:</b> Do not change the speed settings before enabling LACP on the remote switch.
PD4-334620931	During an MSM or MM failover, an MSDP peer incorrectly prints debug messages in the log as warning messages.
<b>BlackDiamond 8800 Series Switch</b>	
PD4-1535593829	An untagged packet that is size 1,518 and ingressing an 8900-G48X-xl module is getting slowpath L3 forwarded.
PD4-1548201973	The following error message is seen every seven hours when there is a data loop:  <Erro:Kern.Card.Error> Slot-4: b44: eth1: transmit timed out, resetting
PD4-1507934901, PD4-1141415551	Software redundant ports become active for a short period of time after performing a save and rebooting the switch.
PD4-1521499552	L2 traffic ingressing a 10G8X-xl I/O module for a MAC that is learned in another slot (G48Tc) is being dropped in some cases.
PD4-1476359639	A link flap is causing VPWS traffic to stop forwarding.
<b>BlackDiamond 20800 Series Switch</b>	
PD4-1522821191	A BlackDiamond 20800 series switch crashes when a new VLAN translation member VLAN is added. The system appears to run out of multicast/flooding PSI resources.
PD4-1508905375	A BlackDiamond 20800 series switch is unable to ping and learn ARP traffic in a vMAN and VLAN interconnected network setup.

**Table 52: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
<b>Summit Family Switches</b>	
PD4-1557268697, PD4-613670035	Power cycling a stack node causes a packet drop of more than 10 seconds even though LAG is configured across stack nodes.
PD4-1544715651	On a Summit X480-24x switch with a 10/100/1000 BASE-T copper SFP, ports do not work properly if the speed is set to Auto Off.
PD4-1368980540	Untagged vMAN VPLS service does not encapsulate all VLANs.
PD4-1354693709	In a SummitStack configuration, the switch sends the wrong SNMP traps when the link status of a stacking port changes.
PD4-1555613047, PD4-1374144318	In a SummitStack, when a master node goes down, ELSM status in the neighboring switch goes to a "down" state.
PD4-1476492650	In a VPWS between a Summit X480 and a third-party switch that are directly attached, that is, no LSRs in the middle, if the third-party switch advertizing an implicit null next hop, the Summit X480 switch sends out the VPLS VPN traffic with only an explicit null label.
<b>SummitStack</b>	
PD4-1507934927, PD4-1498389979	When a SummitStack fails over, the nodemgr process on the new master switch may crash due to an assertion failure.
<b>EAPS</b>	
PD4-1562723121, PD4-1206057921	If EAPS ring ports are added to a VLAN before protecting the VLAN from EAPS, the EAPS secondary port may not be blocking the protected VLAN.
PD4-1511971681, PD4-1102733442	You cannot delete EAPS domains that use the same name but are created using different upper and lower case characters, for example, E777 and e777.
<b>OSPF</b>	
PD4-1509196763, PD4-1059134755	An AS external route with a lower type-2 path cost is preferred regardless of whether the originated ASBR is reachable through intra-area or inter-area paths.
<b>RIP</b>	
PD4-1535257657, PD4-1137714021	A RIP routing entry with a metric of 16 shows in the routing table as Active.
<b>ScreenPlay</b>	
PD4-1523522333, PD4-752945069	If the execCLI XML API is run with specific commands such as <code>top</code> or <code>edit</code> on an ExtremeXOS switch, the switch becomes unresponsive.

## Resolved Issues in ExtremeXOS 12.4.2-patch1-1

The following issues were resolved in ExtremeXOS 12.4.2-patch1-1. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.5, ExtremeXOS 12.2.2, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 53: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1446947741, PD4-657839005	When stacking redundancy is disabled, the following error message is displayed after executing the <code>save</code> command followed by enabling SSH:  <Info:AAA.LogSsh> Slot-1: Msg from Standby Slot 3: Error -1 writing SSH info to System.
PD4-1459379041, PD4-1231117748	In RIP, an output route policy is applied to an input route policy internally after changing and refreshing the output route policy file.
PD4-1493262893, PD4-1350258611	Process <code>exsshd</code> consumes 99% of CPU capacity when executing the <code>clear session</code> command.  <b>Workaround:</b> Restart the <code>exsshd</code> process to restore CPU utilization. You may also close the SSH session properly using the <code>logout</code> or <code>exit</code> commands instead of the <code>clear session</code> command.
PD4-1435948354, PD4-1090154127	In PIM Dense Mode, IP multicast cache entries that do not have an egress interface are not refreshed in hardware. This may cause "out of sequence" packets, which can result in "pixilation" in IP TV environments every 210 seconds.
PD4-1453523432, PD4-1132247995	The service description files <code>xos.wsdl</code> and <code>netconf-base_1.0.wsdl</code> fail to load when using the <code>soapUI</code> application.
<b>BlackDiamond 8800</b>	
PD4-1424690913, PD4-805462597	A slot fails on a BlackDiamond 8800 series switch when enabling <code>dot1p</code> examination inner-tag ports on more than 24 ports in a vMAN.
<b>BlackDiamond 10800 Series Switch</b>	
PD4-1424690827, PD4-1372389633	With PIM snooping enabled on a pure L2 VLAN, PIM snooping entries timeout without being refreshed, even though PIM hello packets are received on the VLAN port. This behavior is only seen after a BlackDiamond 10808 switch fails over to MSM-B and MSM-A becomes the slave switch.
<b>Summit Family Switches</b>	
PD4-1477259761	A Summit X250-24P switch is unable to upgrade to ExtremeXOS 12.4.1 or later due to an unnecessary file in Compact Flash.
PD4-1480638001	On a Summit X650-24x switch, the following CPU watchdog warning message is printed to the console when the switch is processing excessive slow patch traffic:  CPU 0: Kernel thread was stuck for 5.70 seconds jiffies: 273225
<b>ACL</b>	
PD4-1370360661, PD4-902099498	A policy file created in a Windows environment using empty lines at the end of the policy file shows the error <i>Incomplete entry in policy &lt; policy-name &gt;</i> when applying or performing a "check policy."  <b>Workaround:</b> Run the <code>edit policy &lt;policy-name&gt;</code> command and save the policy file. You do not need to change the contents of the policy file.

**Table 53: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
<b>EAPS</b>	
PD4-1482379553, PD4-1248684161	The ExtremeXOS CLI does not prevent a user from enabling BOOTP on an EAPS control VLAN.
PD4-1386102367	When running ExtremeXOS PIM-SM in a multi-access case (that is, an EAPS ring): <ul style="list-style-type: none"> <li>A downstream router should not send periodic (S, G) prunes.</li> <li>Over-riding a PIM-JOIN message is delayed when multiple (S,G) prunes are received.</li> </ul>
<b>ScreenPlay</b>	
PD4-1502591163, PD4-1523521971	A switch may hang on executing the <i>restart process thttpd</i> command when the CPU utilization for thttpd reaches 99.9%.
<b>SNMP</b>	
PD4-1504020368, PD4-796910727	Using SNMPv3, a user does not receive a warning message when trying to log on to a switch using the wrong password.
PD4-1459378855, PD4-1440591951	The extremePowerSupplyStatus SNMP variable values in the EXTREME-SYSTEM-MIB are not sufficient to represent the various states of a power supply.
<b>STP</b>	
PD4-1493262831, PD4-1197366638	Ports become active and start forwarding traffic before STP is operational when rebooting.
<b>VRRP</b>	
PD4-1460240047, PD4-1355839871	A switch should not allow a user to telnet to a VRRP VIP if the source address is in a different network from the VRRP VIP network.

## Resolved Issues in ExtremeXOS 12.4.2

The following issues were resolved in ExtremeXOS 12.4.2. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.5, ExtremeXOS 12.2.2, and ExtremeXOS 12.3.6. For information on those fixes, see the release notes for the specific release.

**Table 54: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1095776451	An Extreme switch is unable to make a connection if the management IP is in VR Default. <b>Workaround:</b> XML notifications only work on the Management VR.
PD4-1110970277	Nettools crashes with signal 11 when a continuous ping is configured for more than 10 SSH or telnet sessions.
PD4-1423144102	Switch reboots after 130 failed login attempts
PD4-1376627795	The Polycom SPIP 331 phone exceeds the IEEE class power limit for a class 1 device. This feature enhancement removes the ExtremeXOS restriction based on the IEEE Class Power Limit and uses the Class Power Limit as informational only.
PD4-1344772450	Session variables are not saved across MSM or Stack failover. User needs to manually execute the script to populate the session variables after failover.
PD4-1383408085	SysRq keys must be disabled by default

**Table 54: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-1318549914	In the ACL policy file for SNMP, the "source-address" field is the only supported match condition. Any other match conditions are ignored.
PD4-1289042980	In Web Netlogin, logout popup window is displayed momentarily then quickly disappears and logout page has incorrect info when logout-privilege is disabled
PD4-1253879412	When creating VPLS instances, the service VLAN name is not shown. SmartTraps are received, but Ridgeline SA is unable to collect the VLAN data.
PD4-1265355788	VLAN mirroring cannot mirror packets that are ingressing a LAG port when the master port link is disabled.
PD4-1272649253	The invalid syntax keyword <code>tag_name</code> is added when configuring a syslog target.
PD4-1185907951	Disabling learning on VLAN results in LACP packets being dropped
PD4-1211850839	When disconnecting a network login authenticated client who is connected through a dynamically created network login VLAN, process mcmgr crashes and generates the following log message:  ***** Process mcmgr pid: 518 died with signal: 11
<b>BlackDiamond 8800 Series Switch</b>	
PD4-1322479483	In SNMP MIB, ModuleconfiguredType and ModuleInsertedType values for 10G4Xc and 10G8Xc I/O cards are incorrect.
PD4-1203047506	On BlackDiamond 8800 series switches, the inline power state remains <i>delivering</i> on the G48P and G48Pe modules after a powered device is removed from a port.
PD4-1190894931	Traffic ingressing a G48T, G48P, G24X, G8X, or 10G4X module that egresses a load sharing member port on a different I/O module is dropped when an 8900-MSM128 module is in use. In the case of a stack that contains an original series Summit X450 and X650, traffic ingressing the Summit X450 that egresses a load sharing member port on a Summit X650 switch is also dropped. Only certain LAG groups are affected, most notably, the first LAG group is not affected.
PD4-1239769161	When running pings for an L3 interface, ping packets are dropped when IP forwarding is enabled on a BlackDiamond 8800 series switch.
PD4-1202084496	When configuring PIM Sparse mode on a BlackDiamond 8800 original series switch, a memory leak is detected. Workaround: disable multicast route compression by running the <code>configure forwarding ipmc compression off</code> command.
<b>BlackDiamond 10800 Switch</b>	
PD4-1272649937	ESMI related warning messages are seen in the output of the <code>show log</code> command whenever an SSL certificate with a key length of 4,096 is created or the HTTPD process is restarted.
PD4-1197058460	Fans on a BlackDiamond 10800 switch may run at a higher RPM, causing unacceptable noise levels.
<b>BlackDiamond 12800 Series Switch</b>	
PD4-1250201281	A hardware error may occur on a BlackDiamond 12800 series switch resulting in a misread on the backplane SerDes FPGAs. This misread is interpreted by the system-health-check as an error, which in turn may cause an I/O module or MSM to be taken offline.
<b>BlackDiamond 20800 Series Switch</b>	
PD4-1402199417	The customer had an XM-8XB in IOB slot-2 and only one XFM-1 in fabric slot-1. Runtime diags shows the following error: Slotnum 2 DiagResult timestamp Thu Jun 24 02:06:50 2010 Test Temperature(s) = 33C 33C 35C 34C Diag Version=1.0.1.7. EXOS Version=12.4.1.7 S/N=09366-80141  ----- System Test FABRIC Connectivity: Device 3 Link 19 Failed

**Table 54: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-1252711676	IRS traffic is getting dropped when an ACL is configured with a traffic queue specifying the egress port. Works fine if port is not specified.
PD4-1050879321	The message log fills up the following helloCount Info messages during firmware upgrade from CR 21 (EXOS 12.3.2.5) to CR 23 (EXOS 12.4.1). This action can eliminate any important message in the log buffer. 12/16/2009 20:56:17.15 <Info:HAL.Sys.Info> MM-A: XBAR ucPipeCallBackFn slot 21. helloCount 9. 12/16/2009 20:56:17.15 <Info:HAL.Sys.Info> MM-A: XBAR ucPipeCallBackFn slot 20. helloCount 9. 12/16/2009 20:56:17.15 <Info:HAL.Sys.Info> MM-A: XBAR ucPipeCallBackFn slot 19. helloCount 9. 12/16/2009 20:56:17.15 <Info:HAL.Sys.Info> MM-A: IO ucPipeCallBackFn slot 8. helloCount 9.
PD4-1308580041	Diffserv examination and diffserv replacement do not respond after performing a <code>save</code> and <code>reboot</code> on a BlackDiamond 20800 series switch.
PD4-1207376781	Paging does not work for CustomerVlanConfig and BVlanConfig.
PD4-1081408709	Packets in lower priority queues are getting dropped even though the sum of the streams bandwidth is less than the queue meter value.
PD4-722565502	Hot insert of a PSU, or reseating an AC plug on a PSU, causes the following error messages on a BlackDiamond 20800 series switch and causes the <code>show power budget</code> command to read the wrong value for the PSU.  <pre>* BD-20804.25 # ##### CRITICAL ERROR devmgr: dmps.c:563: power_add(): REASON: total-&gt;volt[i] == p2-&gt;volt[i] * BD-20804.26 # sh power bud Watts PS State at 48V ----- 1 Powered On 2340.00 2 Powered On 3480.00 3 Powered On 6960.00</pre>
PD4-1235317131	Running the <code>show access-list counter</code> command on a BlackDiamond 20800 series switch causes a buffer leak, which results in a slot failure and conduit error.
PD4-920567621	While creating 100,000 static FDB entries, the MM console stops responding after creating a few MACs.
PD4-1083141408	A hard failover between two MMs (hotswapping a master MM) causes a PSU to go into failed state, even though both PSUs look operational.
PD4-1052907851	Removing and adding VLANs into EAPS-Domain causes a fabric error: <pre>PSUCTRL-2 : FABRIC-1 : 806001-00-06 09106-80092 Rev 6.0 uC: 2.4 F-1: 1.0 F-2: 1.0 FABRIC-2 : 806001-00-06 09066-80136 Rev 6.0 uC: 2.4 F-1: 1.0 F-2: 1.0 FABRIC-3 : 806001-00-05 09066-80073 Rev 5.0 uC: 2.4 F-1: 1.0 F-2: 1.0 FABRIC-4 : 806001-00-05 09106-80155 Rev 5.0 uC: 2.4 F-1: 1.0 F-2: 1.0 FABRIC-5 : Rev 0.0</pre>
<b>Summit Family Switches</b>	
PD4-1023729033	A Summit family switch is not sending the SNMP traps "extremeFanFailed" and "extremeFanOK."
PD4-1478418711	When the <code>reboot</code> command is run on a stack master with a confirmation to save the configuration, the HAL process may not respond, which causes the EPM process to kill the HAL process. Subsequently, the master node reboots. This issue may also be seen on a SummitStack.



**Table 54: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-1373461510	Re-installing the "pktcapt.o" debug module causes switch to crash in certain scenarios.
PD4-1376173821	Enabling stacking causes switch to go into reboot loop in some scenario.
PD4-1212941471	Segment health check intervals and common path timers cannot be modified when provisioning EAPS.
PD4-1252408665	A test port remains active when the port is disabled and a 10/100/1000BASE-T mini-GBIC and SFP I2C read/write failure 5557 occurs.
PD4-1202675291	Unsupported SFPs are reported as supported on copper switch combo ports.
<b>ACL</b>	
PD4-1269301071	A switch may experience traffic loss when it becomes a VRRP master even before flow-redirect ACL is fully loaded.
PD4-1283408580	For ACL counters for IGMP message type, the direct offset is calculated and the protocol type in the IP header is not checked. Therefore, any IP datagram matching the offset is counted as matching. <b>Workaround:</b> Set a "protocol igmp" match condition explicitly in the policy file.
PD4-1236337733	Dynamic ACL configurations are lost after upgrading from ExtremeXOS 12.3 to ExtremeXOS 12.4.1 software.
<b>BGP</b>	
PD4-1227697181	BGP does not withdraw routes that are not preferred routes from neighbors to which the routes were previously advertised.
PD4-1274817277	The BGP process dies with signal 11 while processing BGP updates that contain an AS4_PATH path attribute prior to processing an AS_PATH attribute.
PD4-1174847130	A BGP speaker does not advertise routes to its peer after running the <code>restart ports all</code> command. <b>Workaround:</b> Disable and enable BGP.
<b>IP Routing Protocols</b>	
PD4-470597781	When a local VLAN with 32 subnet-mask IP addresses is down, the dynamic route with the same 32 subnet-mask IP addresses is not reachable.
PD4-1373461754	Receiving ARP packets on an L2 VLAN that has an IP address that was configured earlier, causes a switch to populate the "rejected IP" field in the output of the <code>show iparp</code> address.
<b>Multicast</b>	
PD3-189399801, PD4-835960201	The command output for the <code>show pim rp-set</code> command does not always show all the Rendezvous Points for a multicast group. <b>Workaround:</b> Do not configure the group address in the rp-list with a non-zero host portion.
PD4-1435948354	PIM-DM: Pixilation issue every 210 seconds on IP multicast stream
PD4-1092955793	EXOS:IGMP leave-timeout not enforced correctly.
<b>OSPFv3</b>	
PD4-1386632031	Receiving LS updates for an AS-External LSA with an invalid prefix length (a length of 128 or higher) causes the OSPFv3 process to die with signal 11.
<b>MPLS</b>	
PD4-1384570841	Configuring an IP MTU of 9216 is causing MPLS process to crash.
PD4-1146172493	MPLS EXP replacement and examination configurations are not being reset after deleting the MPLS protocol from a user VR and adding MPLS to a VR-Default.



**Table 54: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
<b>SNMP</b>	
PD4-1273682211	In SNMP MIB, the "SlotType" variable does not support all the card types on an Extreme device.
<b>Spanning Tree Protocol</b>	
PD4-1283017629	In some cases, STP ports stay in the blocked state in all the protected VLANs in a specific domain, even though the output of the <code>show stpd &lt; domain-name &gt; ports</code> command shows the state as forwarding.
PD4-1237283706	An MSTP port may stick in the listening state after a switch reboot.
PD4-1179902351	A "new root" trap is always generated when a link up or link down occurs on an edge safeguard port on an MSTP domain.

## Resolved Issues in ExtremeXOS 12.4.1-patch1-5

The following issues were resolved in ExtremeXOS 12.4.1-patch1-5. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.5, ExtremeXOS 12.2.2, and ExtremeXOS 12.3.4. For information on those fixes, see the release notes for the specific release.

**Table 55: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1301482701	ELSM is not responding after rebooting a switch, resulting in the links of neighboring devices staying down.  <b>Workaround:</b> After rebooting the switch, run the <code>enable elsm ports &lt;port-list&gt;</code> command again.
<b>Summit Family Switches</b>	
PD4-1277806041	An ACL applied to another VLAN is matched even though the ACL is not applied on the ingress ACL.
<b>MPLS</b>	
PD4-1375779654	MPLS next hop is not being programmed in hardware on a BlackDiamond 20800 series switch that is configured with static routing.  <b>Workaround:</b> Run the <code>configure mpls ldp advertise static none</code> command.
<b>Multicast</b>	
PD4-1299398378	IPv4 multicast entries are not cleared after an IP multicast snooping entry times out when <code>add-ring-ports</code> is enabled.
<b>QoS</b>	
PD4-1256063039, PD4-1142795366	Configuring a QoS profile for all ports using the <code>all</code> keyword fails if load-sharing is configured on the switch.

## Resolved Issues in ExtremeXOS 12.4.1-patch1-4

The following issues were resolved in ExtremeXOS 12.4.1-patch1-4. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.5, ExtremeXOS 12.2.2, and ExtremeXOS 12.3.4. For information on those fixes, see the release notes for the specific release.

**Table 56: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1191404997	When disabling and enabling a BGP peer with 15,000 routes multiple times, an assertion failure occurs and the BGP process crashes with signal 6.
PD4-1202538501	When BFD transmit intervals are set to 100 ms for 50 BFD sessions, the sessions are not formed and the switch crashes.
PD4-1221696686	<p>ExtremeXOS software is unable to upgrade an ExtremeXOS software license to any switch that has a serial number beginning with 0953x-xxxx using the <code>enable license file &lt;license-file.xlic&gt;</code> command.</p> <p><b>Workaround:</b> Enable the license by running the <code>enable license &lt; key &gt;</code> command.</p>
<b>BlackDiamond 8800 Series Switch</b>	
PD4-1193953108, PD4-1191020319	When a 10M SFP+ passive copper cable is inserted into an 8900-10G24X-c module, it is detected as a 1 Gbps optic instead of a 10 Gbps optic and the port is incorrectly reconfigured for 1 Gbps operation. SFP+ passive copper cables of other lengths do not experience this problem.
<b>BlackDiamond 10800 Series Switch</b>	
PD4-1202578215	Process LLDP crashes with signal 6 and the DUT reboots when the IdMgr is enabled with 180 LLDP neighbors, and an SNMP Walk is performed on lldpRemTable.
<b>BlackDiamond 12800 Switch</b>	
PD4-1195687987	<p>The BGP process crashes with signal 6 while trying to delete a VLAN from a user created VR in MPLS-VR.</p> <p><b>Workaround:</b> Disable BGP prior to deleting the VLAN and enable graceful restart on BGP.</p>
PD4-1198343901	<p>By default, Kerberos authentication uses UDP to transmit data. UDP provides no guarantee that a packet sent along the network will reach its destination intact. In addition, the UDP Kerberos protocol may cause the "KRB_ERR_RESPONSE_TOO_BIG: Response too big for UDP, retry with TCP" error (that is, the size of a ticket is too large to be reliably transmitted by UDP). In some cases, the client fall back from UDP to TCP Kerberos request may affect ExtremeXOS Kerberos snooping.</p> <p><b>Workaround:</b> This issue is not seen if Kerberos packets are sent either through UDP or with TCP Kerberos only. It is recommended that the client use either TCP or UDP for a Kerberos request on the client side (reference: <a href="http://support.microsoft.com/kb/244474">http://support.microsoft.com/kb/244474</a>).</p>
<b>BlackDiamond 20800 Series Switch</b>	
PD4-815808567	After refreshing a large ACL, the ACL counter is hit even though the match condition is not met.
PD4-1158486259	In a VPLS configuration with RSVP redundant paths, disabling and enabling a primary path link results in traffic flowing asymmetrically between the primary and secondary paths.
PD4-1195690741	A DUT crashes when configuring ARP pending entries to a lower number while the DUT contains additional numbers of pending entries.
PD4-1213977743	The delay shown in the output of the <code>show cfm segment frame-delay statistics</code> command is incorrect by a decimal.

**Table 56: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
<b>Summit Family Switches</b>	
PD4-1261991331	A route manager crash occurs on a Summit X450 switch after disabling IPv6 compression on ISISv6 routes.
PD4-1191918662	After installing ExtremeXOS 12.4.1.6 and rebooting a Summit family switch, no VPLS traffic can be forwarded and numerous MPLS error messages are seen in the log. If a Summit X480 receives more NHLFEs and ILMs than it can support, the switch may experience traffic loss.
<b>SummitStack</b>	
PD4-1159043191	A data loop occurs in the second VLAN of two protected VLANs when the second VLAN is added using auto-bind.
<b>BGP</b>	
PD4-1259087417	BGP crashes with a "Program terminated with signal 11, segmentation fault" error.
PD4-1185696661	A BGP process crash with signal 11 occurs when disabling and enabling a BGP peer with 15,000 routes.
<b>OSPF</b>	
PD4-1190659647	The following critical error is displayed when deleting a VLAN in OSPF graceful restart:  <Crit:Kern.Emergency> MM-B: unregister_netdevice: waiting for v4_F456C to become free. Usage count = 1
<b>Spanning Tree Protocol</b>	
PD4-1197366585, PD4-1197366555	A temporary loop is detected when flapping an MSTP enabled port on a root bridge.

## Resolved Issues in ExtremeXOS 12.4.1

The following issues were resolved in ExtremeXOS 12.4.1. ExtremeXOS 12.4 includes all fixes up to and including ExtremeXOS 11.1.4.4, ExtremeXOS 11.2.3.3, ExtremeXOS 11.3.4.5, ExtremeXOS 11.4.4.7, ExtremeXOS 11.5.2.10, ExtremeXOS 11.6.5.3, ExtremeXOS 12.0.5, ExtremeXOS 12.1.3, ExtremeXOS 12.2.2, and ExtremeXOS 12.3.4. For information on those fixes, see the release notes for the specific release.

**Table 57: Resolved Issues, Platform-Specific and Feature PDs**

PD Number	Description
<b>General</b>	
PD4-1168199957, PD4-1156762929	A triggered IGMP query with the wrong 802.1Q tag is sent on a vMAN enabled port.
PD4-1131636749, PD4-1099203316	Egress vMAN ACLs are not getting matched, even though the traffic matching the ACL match condition is egressing the switch port.
PD4-1151118264, PD4-931823732	A loop occurs after disabling learning on a protected VLAN on an EAPS master.
PD4-1147158779, PD3-175211031	The ExtremeXOS CLI does not prevent EAPS health check PDUs from looping using the <code>permit all</code> keywords when installing ACLs.
PD4-448603051	The <code>unconfigure pim vlan</code> command clears (unconfigures) an SSM configuration on a VLAN but the VLAN continues to operate in the SSM VLAN, even after running the <code>disable pim</code> and <code>enable pim</code> commands.
PD4-1125058997, PD4-1111322167	When running the <code>disable subvlan-proxy-arp vlan</code> command on a subVLAN, clients are not able to resolve the ARP request for the superVLANs interface IP address.

**Table 57: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-1110457330, PD4-938840511	CPU utilization threshold cannot be cleared through SNMP. <b>Workaround:</b> Run the <code>disable cpu-monitoring</code> command.
PD4-1084310235, PD4-901582203	A typographical error exists in the following error message and will be corrected in the next version of ExtremeXOS software:  <Warn:AAA.RADIUS.serverSwitch> MSM-A: Swith to server...
PD4-1084310201, PD4-901961135	When an SNTP client is configured, the following log message is displayed every 4,096 seconds:  Setting hwclock time to system time, and broadcasting time Setting hwclock time to system time, and broadcasting time Setting hwclock time to system time, and broadcasting time
PD4-978931834, PD4-975759347	When stacking redundancy and telnet access-profiles are configured, the following error is displayed:  Connection refused Connection closed by foreign host.
PD4-1028577711, PD4-995543551	When configuring an ip-mtu as 9,216, the value is reduced to 9,194 after upgrading to ExtremeXOS 12.1 or later.
PD3-6317414	Secondary DNS and SNTP servers are not contacted if the primary server cannot be reached.
PD4-1070888667, PD4-819677511	The <code>show configuration vlan</code> command may also show the QoS profile configuration for load shared member ports.
PD4-1070888747, PD4-1028753771	The process "exsshd" crashes with a signal 11 error when closing a session window without using the proper logout.
PD4-467944506	With IPv6-in-IPv4 tunnels, routes are not learned through RIPv6 after the port in the tunnel source VLAN is changed from tagged to untagged or vice versa.
PD4-734160746	In a private VLAN spanning two switches, when one of the switches has loopback-port configured and the network VLAN port between the switches is a load-shared port, if the loopback port is deleted and later re-added, the first packet received in the member port can be dropped. Subsequent packets are forwarded correctly.
PD4-491938681	A user cannot change the password for a local administrator account when logged in using a RADIUS administrator account.
PD4-852858182, PD4-694359201	Process cliMaster dies with signal 6 in some cases.
PD4-944744061, PD4-935076380	When a switch receives UDP packets with source port 3503, memory depletion occurs and the switch may reboot.
PD4-539460518, PD4-539277416	Failsafe account authentication fails when trying to access a switch using SSH by way of a management port.
PD4-818402813, PD4-772840867	An Extreme Networks switch ignores the string "priv_lvl" in a TACACS authorization reply packet.
PD4-876867319, PD4-862521622	Receiving bootstrap packets with a "Fragment Tag" field set to zero causes memory depletion in the PIM process when processing subsequent bootstrap packets.
PD4-804570069, PD4-717931715	After upgrading a PoE capable ExtremeXOS switch from software version ExtremeXOS 11.6 to 12.1, the <code>show configuration poe</code> command is not available.
PD4-806088611, PD4-605137688	The drop counter for FDB entries is not updated and no log message is generated to indicate a hash collision or table full error.
PD4-816906321, PD4-500100211	The "vi" process may crash when performing a cut/copy/paste of text that is larger than 10,492 bytes.
PD4-817311874, PD4-507170653	Policy files containing 850 entries with flood-groups causes an Extreme Process Manager (EPM) watchdog reboot.

**Table 57: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-825283681, PD4-699307521	When running the <code>show ports stack-ports rxerrors</code> command, the "RX Over" count continuously increments, even without user traffic.
PD4-828265339, PD4-537092174	Enabling diffserv examination on Summit family or BlackDiamond 88000 series switches causes dot1p replacement of 802.1q tagged packets.
PD4-843338040, PD4-796910653	The switch stops forwarding traffic after disabling remote mirroring. <b>Workaround:</b> Delete the ports from the data VLAN and add it back to the VLAN.
PD4-882862442, PD4-767856469	After running the <code>save</code> command and rebooting a switch with a VLAN translation configuration, duplicate packets are sent to member VLANs from the translation VLAN.
PD4-899492655, PD4-505794657	Repeatedly running multiple commands from a telnet session causes memory depletion in the <code>exsh</code> process.
PD4-929585868, PD4-507170288	Traffic received on an STP/EAPS blocked port is being sent to the CPU if the source MAC address of the incoming packet matches the MAC address of the DUT system.
PD4-803700570, PD4-795451285	After disabling flooding for broadcast traffic, the broadcast traffic originated from the switch is not flooded out.
PD4-774654053	A 10GE module fails silently followed by a silent MSM failover.
PD4-780725598, PD4-779916611	When a static entry is added to a configured domain, the entry is also added to another domain.
PD4-817416641, PD4-541064246	When configuring rate-limiting on a switch, the max-burst-size value is not reset after reconfiguring the switch.
PD4-817416749, PD4-504813986	In a DNS server, if the RADIUS server IP address is specified as CNAME, that is, Alias, a switch is not able to resolve the IP address correctly.
PD4-932027220, PD4-698458401	Every 300 seconds, kill entries installed by PIM are not removed from hardware, therefore, traffic for those entries does not hit the CPU.
PD4-855250053, PD4-843000831	The counter for the <code>show traffic queue statistics</code> command is displayed as "multiple" when ingress ports are on different I/O modules but all ports have the same egress ports.
PD4-953613971, PD4-944885511	Receiving LACP PDUs that are larger than 500 causes the LACP process to die with a signal 11 error.
PD4-962772378, PD4-924242747	The FDB process may die with signal 11 when the <code>show fdb statistics</code> command is executed.
PD4-974227479, PD4-767595507	The log filter is not shown in the output of the <code>show upm profile &lt;profile-name&gt;</code> command.
PD4-843337987, PD4-748079627	The debug log <code>&lt;Info:thttpd.info&gt; 13 line feeds removed</code> is not necessary and is shown when configuring a switch with HTTPS.
PD4-985272501, PD4-943063565	The cliMaster fails with a signal 6 error when running the <code>show configuration pim</code> command while PIM is configured with a static CRP.
PD4-980404139, PD4-899333484	The <code>thttpd</code> process CPU utilization increases and HTTP/HTTPS is not accessible if sock/stress attack is performed on an HTTPS port. This issue persists indefinitely even after a sock/stress attack is removed.
PD4-985606480, PD4-791833227	If an IPv6 tunnel is configured, adding a static route causes the Route Table Manager to crash with a signal 11 error.
PD4-826754349, PD4-581257425	An error occurs when loading an ExtremeXOS 12.1 or earlier software configuration file if the banner configuration contains a new line character.
PD4-806088040, PD4-684400473	A switch does not generate high CPU utilization log messages after executing the <code>clear cpu-utilization</code> command, even if process CPU utilization goes above the threshold value.
PD4-993453673, PD4-983772991	The <code>ifMauDefaultType</code> MIB is populated with the wrong value when a switch is running ExtremeXOS 12.3.3 software.

**Table 57: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-1023187137, PD4-968719352	When running the <code>terminate process exsshd forceful</code> command while an SSH session is in progress, the SSH session does not shut down even if it is no longer seen in the output of the <code>show session</code> command. When restarting the SSH session using the <code>start process exsshd</code> command, the switch appears to hang while waiting for the ongoing SSH session to be terminated.
PD4-1005347431, PD4-990080561	In CLI non-persistent mode, modifying a port in a VLAN from an untagged port to a tagged port deletes the port from that VLAN.
<b>BlackDiamond 8800 Series Switch</b>	
PD3-190363671	The following error message is displayed while hot swapping PSUs:  Unable to read PSU-2 FRU data. Try reinserting PSU more quickly.  <b>Workaround:</b> Remove and reinsert the PSU quickly. Insert the PSU in a single, continuous motion with a firm push.
PD4-910971021	Port Summary Monitor timestamps display on a console as part of the <code>show port &lt;port _list&gt;</code> command output.
PD4-983675112, PD4-983613057	The conversion of RX and TX power from uW (as read from the optic) to dBm incorrectly uses the natural log function rather than the log base 10 function. The status of RX and TX power is correct, but the values shown are not correct.
PD3-131866114	BlackDiamond 8800 series and Summit series switches do not support LPM hardware forwarding using IPv6 routes with a mask length greater than 64 bits. As a result, IPv6 packets may be forwarded in hardware to a different next hop by using a route with a mask length less or equal to 64. This occurs even though a route with a mask length greater than 64 with the correct next hop is known in software, but not in hardware. The following log message is logged when the first route with a mask length greater than 64 is added:  <Noti:HAL.Ipv6FIB.Notice> MSM-A: vrId 2 dest 3218:: / 77 nexthop : IPv6 routes w/ mask len > 64 not supported in HW. Packets may be forwarded using less-specific routes.
PD4-758181807	Non-combo ports with a 10/100/1000BASE-T SFP inserted in a switch with a link up, flap if any other two ports are disabled.  <b>Workaround:</b> Disable ports one at a time.
PD4-761201951	In ExtremeXOS 12.3, if there is only a single MSM in an MSM-B slot, the 8900-G96T-c and 8900-10G24X-c I/O modules may reset a couple of times before becoming operational. This issue may occur when: <ul style="list-style-type: none"> <li>• The chassis reboots</li> <li>• These I/O modules are disabled and enabled</li> <li>• The I/O modules are inserted into the chassis</li> </ul>
PD4-723665584	Packets egressing an egress-mirrored port on a 8900-10G24X-c module may not be mirrored to the monitor port when the packet is locally originated, or when the packet ingresses from a module in another slot other than the slot on which the monitor port resides.
PD4-824643191, PD4-688252511	Some hosts are no longer reachable after removing an active MSM-B in a cross module link aggregation setup.  <b>Workaround:</b> Disable and re-enable the load-shared port.
PD4-860761322, PD4-767590011	A devmgr process crash may occur when the <code>show version</code> command is executed.
PD4-828265439, PD4-701906049	Running the <code>configure sys-recovery-level</code> command resets a switch to the factory default after disabling and enabling a G48Xa I/O module.



**Table 57: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-936088746, PD4-791316018	When using SCP to download an image, the image fails to install on the backup MSM and the following error is displayed:  Installing to MSM-BError: Failed to install image - tar: / scratch/bd8800-12.1.3.14.xos: No such file or directory.
PD4-862132071, PD4-238870391	When STP notifies EAPS that it has flushed an FDB table, EAPS no longer performs an additional FDB flush of the local switch. The additional flush was not necessary and had a side effect of inadvertently unauthenticating netlogin clients on the local switch.
PD4-855783094, PD4-769156523, PD4-1026560731	The message MSM-A: Error while saving "psePort": is displayed when a save command is executed after reconfiguring a slot as a G48te2 (PoE) to G48te2 module.
PD4-973716614, PD4-975082490	EDP information is not displayed when a port is not a member of a VLAN or is tagged. <b>Workaround:</b> Add port 1:1 (untagged) to the VLAN default.
<b>BlackDiamond 10808 Switch</b>	
PD4-828655386, PD4-630233676	After performing a hitless upgrade, the show version command output still shows the old master filename, not the new image. However, the show switch command output shows the correct image.
<b>BlackDiamond 12800 Series Switch</b>	
PD3-125511903	A system failure occurs with a signal 10 error when performing a run msm-failover immediately after the backup MSM is in-sync
PD4-616376481, PD4-901339862	The following error message is displayed during NetloginMac_V2 regression after rebooting a switch with the save option set to yes:  <Error:HAL.Card.Error> MSM-A: Unable to remove broadcast MAC entry for VLAN/VMAN while changing tag from 1 to 3999
PD4-1079033931, PD4-751999119	When configuring HQoS, traffic goes to the correct traffic queue but is not limited by the meter threshold rate.
PD4-735984501	DUT crashes while configuring static routes via 6in4 tunnels.
PD4-856182552, PD4-698686480	Even after a vMAN ethertype is changed using the CLI, packets are egressing out the service vMAN using an older vMAN ethertype.
PD4-882862525, PD4-723664780	After performing a hitless upgrade from ExtremeXOS 12.0 or later to ExtremeXOS 12.1 or later, packets are sent to the CPU for L3 switching, even though hardware entries exist for the destination IP.
PD4-828265583, PD4-569838439	Packets that need to be L2 switched are not egressing if the packets hit the IPv4 ACL containing a redirect action.  This fix requires a regular upgrade on a BlackDiamond 12804 switch. It will not work if you attempt a hitless upgrade on the BlackDiamond 12804 switch.
PD4-882862632, PD4-852419857	Creating and deleting HQoS queues on a BlackDiamond 12808 results in the following error:  Error: Timeout awaiting Traffic Queue operation.
PD4-973716520, PD4-964896284	When PIM Sparse mode is configured on a BlackDiamond 8800 series switch with c-series I/O modules, a memory leak is detected.
PD4-979176325, PD4-832095668	The ACL match condition ports ingress <port-no> causes incoming packets to be forwarded to all ports in a VLAN as per the VLAN tag for incoming packets, even though the ingress port is not part of that VLAN.
<b>BlackDiamond 20800 Series Switch</b>	
PD4-913402141, PD4-1034364517	Process XMLD crashes if multiple "OpenSession" XML requests are sent continuously.

**Table 57: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-728449478	The ucRx: micro controller returns the following error message while running diagnostics: reset hello error Unrecognized command: hello feConfig = fffe2848
PD4-551040931	Multicast traffic is dropped after disabling load-share port links using MVR.
PD4-927699591	Running an ExtremeXOS 12.3 image in the Delay Measurement Message (DMM) originator, and a later version of ExtremeXOS on a BlackDiamond 20808 on the other end, Y.1731 does not work. The Delay Measurement Reply (DMR) is received by the originator, but rejected due to an incorrect check in the application.
PD4-978540087, PD4-978263097	During a malfunction of an adjacent node, excessive DHCP traffic is flooded to the switch causing watchdog failures and outages.
PD4-749215601	Running the <code>install firmware</code> command generates the following error message: reading from file /dev/mtd0 failed: Cannot allocate memory .FAILED: SLOT 18, MM PMON UPGRADE NOT REQUIRED: SLOT 18, MM Spanky Primary Error:can't read "pfc": no such variable
PD4-1077149606	A DUT displays errors when a policy file is configured with traffic queues on a VLAN or vMAN.
PD4-1056438821	If a meter is attached to an egress traffic queue after an ingress traffic queue and an egress traffic queue association, the meter does not take effect. <b>Workaround:</b> Configure the aggregate meter for the egress traffic queue first and then associate it with an ingress traffic queue.
PD4-1058161045	Rate shaping is not occurring as per configured limits on an ACL meter. <b>Workaround:</b> <ul style="list-style-type: none"> <li>Configure the committed rate for the meters associated with CoS levels in bandwidth mode.</li> <li>The peak rate for an aggregate meter should be greater than the sum of the committed rates of CoS level meters.</li> </ul>
PD4-1096903835, PD4-1096903835	Using two BlackDiamond 20800 series switches acting as a VRRP master and a VRRP backup in an EAPS ring topology, the system crashes with the following error: epc : c07a2668 kioSendFdb+0x184/0x0 [exvlan]
PD4-1083445001	Packets received on an "ESRP host attach" port are dropped on a BlackDiamond 20804 switch when the switch is in ESRP slave mode. BlackDiamond 20804 switch drops EAPS PDUs when IP ARP replies are ingressing the switch.
PD4-800314011	The <code>clear fdb</code> command removes an FDB entry in hardware but the entry remains in software. Running the <code>clear fdb</code> command a second time clears the FDB entries in both the hardware and software.
PD4-820920473, PD4-789754441	A BlackDiamond 20808 process crash occurs when running the <code>debug hal show device packet-processor printXCounters</code> command with an invalid parameter ID.
PD4-748173770	Executing runtime diagnostics using the <code>run diagnostics normal/extended</code> command on a GM-40XB or GM-40XA module can result in the I/O module locking up after diagnostics are complete and ExtremeXOS tries to bring the I/O module back online. It is recommended that you do not execute runtime diagnostics on these I/O modules in a live network.
PD4-853995054	The process <code>upgrade_fw</code> crashes with signal 11 when downgrading a BlackDiamond 20808 switch.
PD4-865667843	PFC uC fails to turn off the power supply once it detects a failed power supply. The bad power supply takes 2.5 minutes to boot up. The PFC uC reads the I/O PIN associated with the PSU alarm PIN and fails the PSU, but it does not power down the bad PSU.



**Table 57: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-918412390, PD4-890754421	L3 traffic is not distributed among LAG ports if a static FDB is configured on the LAG port of a BlackDiamond 20808 switch.
PD4-751294438	A PVLAN subscriber VLAN side device cannot reach a network VLAN side device.
PD4-807083163	Running an MM failover multiple times on a BlackDiamond 20808 switch may result in IPv4 packets being forwarded in software.
PD4-815641157, PD4-779588691	An FDB process crash occurs after enabling an LACP LAG.
PD4-826609208, PD4-805055301	When a single port is configured for WAN PHY, the <code>show configuration vlan</code> or <code>show configuration</code> commands display all ports having a WAN PHY configuration.
PD4-870848448, PD4-852419538	The link on a 10GE port remains active when the Tx fiber is removed from a BlackDiamond 20808 switch while the Rx fiber remains connected.
PD4-756309458	<p>When configuring remote mirroring using a BlackDiamond 20808 switch as the intermediate or destination switch, the remote mirroring port does not receive IP multicast traffic if the monitor port of the source switch is tagged. The traffic is dropped in the transit VLAN.</p> <p><b>Workaround:</b> Configure the monitor port of the switch as an untagged port so that IP multicast traffic will pass through the transit VLAN.</p>
PD4-872419991	After running the <code>run diagnostics extended</code> command on slot1 of a BlackDiamond 20808 switch, slowpath traffic is no longer forwarded to the CPU on slot 1.
PD4-798727801	A PSU is used in slot 4 and 5 in a BlackDiamond 20808 chassis, but ExtremeXOS software or the MM identifies the PSU in slot 4 only as "power failed." The PSU in slot 5 is operational based on an LED inspection, but ExtremeXOS does not recognize the PSU.
PD4-1023187021, PD4-963878819	When a BlackDiamond 20808 series switch runs an MM failover, or a failover is occurring due to a process failure, too many SNMP traps are generated.
PD4-1017565804, PD4-964664834	<p>The following logs are displayed in the master MM when the backup MM is becoming active and the master MM tries to checkpoint the PVLAN data:</p> <pre>&lt;Erro:DM.Error&gt; MM-B: hal: cannot create msg DM_MSG_CHKPT_DATA c10b 235c 0x10bbcd00 &lt;Crit:DM.Critical&gt; MM-B: hal Cannot create msg DM_MSG_CHKPT_DATA of size 9052 (too big)</pre>
<b>Summit Family Switches</b>	
PD4-811997761, PD4-821706998	<p>In some scenarios, the following is seen on a fully loaded SummitStack with non-Extreme optics:</p> <pre>pibConduitRcvMsg: no magic number (0x0) slot number 6, tcp port 5003 [socket buffer length 8,Message version 0, opcode 0, length 0]</pre> <p>This is followed by a HAL process crash. A consistent flapping, receive loss of signal condition, can fill up the conduit queues.</p>
PD4-493683561, PD4-449901506	Disabling multicast flooding on a port may result in ARP requests being blocked.
PD4-1168199981, PD4-935277568	The error <code>SFP I2C read/write failure</code> is seen after disabling a port, and saving and rebooting a 10/100/1000BASE-T SFP module.
PD4-843338091, PD4-772840781	On a Summit X450a series switch, it takes ARP approximately 8 to 190 seconds to resolve after an ESRP failover when the switch is experiencing heavy traffic.
PD4-1062792957, PD4-997419038	When dot1x and MAC-based authentication are both enabled on a port and a user is first authenticated using MAC-based authentication, while dot1x authentication is also running, the response from the RADIUS server is dropped.
PD4-983612803, PD4-970731498	XGM2-2bt modules keep reloading the same firmware to one of the ports when the switch reboots.

**Table 57: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-624062541	Jumbo frames are not mirrored to monitor ports on Summit X650-24t switches when one-to-many mirroring is configured.
PD4-841960995	Running diagnostics on a Summit X450a-48t fails with the following error: <code>Loopback Phy Fiber : Make Connection Failure on unit-[0] port-[24] Last</code>
PD4-918730862	Traffic on ports greater than or equal to 28 are not flooded out to stacking ports.
PD4-911150985, PD4-911212165	Changing L3 adjacency between trunked and non-trunked ports causes traffic to be forwarded incorrectly.
PD4-899256065, PD4-899256073	On a Summit X650 switch, sending two 9,000-byte 800 Mbps streams to a single 10G port fails to trigger flow-control.
PD4-863357932, PD4-788067297	Multicast traffic is not forwarded after rebooting a standby switch in a stack.
PD4-847610713, PD4-805737496	A Summit X450 switch only supports 511 LPM routes.
<b>SummitStack</b>	
PD4-1147158707, PD4-1036384285	SRP port utilization is temporarily shown as high on a slave switch after power cycling.
PD4-937401531	Enabling mirroring on a 512 G stack running the latest 12.3.3.5 image in default standard mode, mirroring works properly. However, if you reset the stack to enhanced mode, and then back to standard mode, mirroring does not work correctly.
PD4-790755381	Two of the four stack ports in a Summit stack are shown as blocked even though none of the ports are in the stack.
PD4-822468466, PD4-803423872	An overheated SummitStack fails, but the ports remain active and traffic continues to be forwarded.
PD4-804569955, PD4-707855726	The <code>configure inline-power budget</code> command is not supported on Summit family and SummitStack switches.
PD4-817417079, PD4-623659132	After a SummitStack failover, the new master node is not reachable using an alternate IP address or gateway.
PD4-977977546, PD4-950113401	Clients connected to a non-master slot in a SummitStack cannot communicate with an ExtremeXOS switch when a port is part of a PVLAN subscriber VLAN, as well as a regular VLAN.
<b>ACL</b>	
PD3-126824622	If an IPv6 address is included in a configuration, use ICMPv6 for the protocol. ICMP (IPv4) should not be allowed.
PD4-806088533, PD4-738207292	Access-profile configurations for SNMP and SSH modules are not available in the show configuration command output.
PD4-806088577, PD4-641467077	The telnetd process crashes with signal 11 when the same policy file is used in a telnet access-profile and an ACL.
PD4-826754811, PD4-667212313	If the <code>refresh policy</code> command is invoked by adding more entries to the policy file, then after unconfiguring that specific ACL, an ExtremeXOS switch starts logging messages such as:  <code>Denied packet on ingress interface vlanIf=1000223 slot=1 port=1, too many ACL's &amp; packet rate is too high" and start to drop all the packets received in slow path.</code>
PD4-828768941, PD4-556797775	The <code>show access-list meter ports x</code> command returns all meters on the switch, not just the one associated with port x.
PD4-964769277, PD4-963068135	An ExtremeXOS switch reboots with memory depletion for a 128 memory block while loading a flow-redirect configuration.

**Table 57: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-962772436, PD4-852494655	With CLEAR-Flow enabled, CLEAR-Flow ACL threads may be killed by EPM.
PD4-983613148, PD4-670315790	When configuring egress ACLs on a load-shared port the following incorrect error message is displayed:  Duplicate ACL config, Note: Egress ACL need be applied on the Master port only
<b>BGP</b>	
PD4-1142713461, PD4-1108149831	The Route Manager crashes when a VLAN through which a network is configured goes down when using the <code>configure bgp add network</code> command.
PD4-486115891	A Border Gateway Protocol (BGP) speaker is not advertising the inactive multicast routes when they become active.
<b>DHCP</b>	
PD4-1101780701, PD4-727955846	DHCP OFFER and DHCP ACK packets are duplicated in a VLAN aggregation setup if a DHCP request is received on a subVLAN.
PD4-804570175, PD4-717000351	An error message should be displayed when adding a subVLAN to a superVLAN if DHCP client or BOOTP client is enabled on the subVLAN.
<b>EAPS</b>	
PD4-826755051, PD4-682475164	IPv6 neighbor discovery packets sent to the CPU are affecting EAPSV2 PDUs, resulting in the following message:  EAPS Shared Port: Segment timer expired.
PD4-874500533, PD4-861919266	Expected traffic convergence time for EAPS has increased after upgrading from ExtremeXOS 11.6 to ExtremeXOS 12.0, resulting in more traffic loss.
PD4-825283110, PD4-627092945	When a shared port is configured prior to enabling an EAPS domain, the EAPS protected VLAN does not block the secondary port in some cases.
PD4-976632991, PD4-861919266	Expected traffic convergence time for EAPS has increased after upgrading from ExtremeXOS 11.6 to ExtremeXOS 12.0, resulting in more traffic loss.
<b>ESRP</b>	
PD3-52741820	Disabling a shared port results in the ESRP port restarting and the configuration disappearing.
PD4-817417119, PD4-631761683	When ESRP is disabled, clients using an ESRP virtual IP address as a default gateway are not able to communicate outside the VLAN.
PD4-856338603, PD4-729030981	A port restart occurs on ports that are enabled for ESRP port restart, even though an ESRP state change has not occurred.
PD4-950113977, PD4-740925847	The following error message is displayed in the log when adding ports to an ESRP slave VLAN.  <Crit:vlan.err.criticalInfo> MSM-A: Critical Info: sysctlWriteSetting: cannot open file.
<b>IGMP</b>	
PD4-931233151, PD4-926340897	Even with IGMP proxy enabled, when an IGMP subscriber leaves, the IGMP-leave is forwarded with multiple subscribers on one port.

**Table 57: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
<b>IPv6 Unicast</b>	
PD3-139714881	<p>The following info level messages appear in the log when link aggregation is configured on a VLAN associated with an IPv6 6-to-4 tunnel:</p> <pre>05:01:49.04 &lt;Info:HAL.VLAN.Info&gt; MSM-B: pibIPv6InstallTunneledLinkLocalFilter: Could not install filter unit 12, Entry exists 04/24/2007 05:01:49.05 &lt;Info:HAL.VLAN.Info&gt; MSM-B: pibIPv6InstallTunneledLinkLocalFilter: Repaired filter unit 12</pre> <p>These messages do not affect the operation of the switch.</p>
<b>IS-IS</b>	
PD3-190952336	<p>When one or more point-to-point interfaces are present on a router with IS-IS graceful restart enabled, the graceful restart may fail for the entire node.</p> <p><b>Workaround:</b> Do not use point-to-point links if graceful restart is also used,</p>
PD3-183234835	<p>Graceful restart fails during "restart process isis." This problem occurs during a graceful restart when one or more neighbors is not enabled as a restart helper.</p> <p><b>Workaround:</b> Ensure all nodes are enabled as restart helpers prior to executing a graceful restart.</p>
<b>Multicast</b>	
PD4-876867238, PD4-814229965	Multicast packets using a system MAC address as a destination MAC address are periodically leaked in slowpath every 30 seconds.
<b>Network Login</b>	
PD4-1059144727, PD4-464577708	A web-based network login client cannot be authenticated using the URL <code>http://&lt;switch-ip&gt;/hello</code> or <code>http://&lt;switch-ip&gt;/login</code> .
PD4-921213359, PD4-837165339	Unconfiguring a guest VLAN port on a non-guest VLAN port removes the guest VLAN configuration from all ports.
PD4-922865962, PD4-823485808	Limit-learning does not show the blackhole entries if network login is enabled on the same port.
PD4-819023271, PD4-684538103	Running the <code>save configuration</code> command causes a memory leak in the netlogin process.
PD4-878324658, PD4-765586466	Network login enabled ports are authenticating the switch MAC address in certain loopback configurations.
PD4-853111507, PD4-843130728	Network login users are not authenticated if the "Tunnel-Private-Group-ID" attribute value is set to 0 on a RADIUS server.
<b>OSPF</b>	
PD4-875793527, PD4-929585917	Incoming router LSAs with a router link greater than 420, causes the OSPF process to crash with an assertion failure.
PD4-974227589, PD4-896536108	When running OSPFv3 over a 6-in-4 tunnel interface, OSPFv3 treats the interface as broadcast rather than point-to-point.
PD4-824384216, PD4-707855673	OSPF stops translating external routes after deleting a static route to the same destination IP address.
PD4-760942841, PD4-759590041	After a port in a VLAN is added to an OSPF area, it takes about four seconds to update a neighboring switch.
PD4-828769034, PD4-241726909	If two routers, both reachable from one another, originate functionally equivalent AS external LSAs (same destination, cost, and non-zero forwarding address), the LSA originated by the router having the highest OSPF router ID is used. The router having the lower OSPF router ID can then flush its LSA. However, an ExtremeXOS switch does not purge the functionally equivalent AS external LSA when an Extreme OSPF router ID is lower.

**Table 57: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-861837558, PD4-767590126	In a jumbo frame environment, an OSPFv3 neighbor gets stuck at EX_START.
PD4-831651183, PD4-701099374	Setting the ospfSetTrap OID mib-2.14.16.1.1.0 to 0x0000ffff does not cause OSPF to send out OSPF traps.
PD4-876299607	OSPF crashes in ExtremeXOS_LDP regression testing.
PD4-956060611, PD4-934588772	When configuring an OSPFv3 timer, the new configuration may not take affect after a switch reboot.
<b>QoS</b>	
PD4-818833752, PD4-512656071	A HAL process crash occurs when HQoS is used with CLEAR-Flow and CLEAR-Flow rules are enabled.
<b>ScreenPlay</b>	
PD4-817159860, PD4-552010000	The following message is periodically logged when the Event Log screen is left open in ScreenPlay:  <code>Login passed for user admin through xml (::)</code>
PD4-860761605, PD4-774800225	ScreenPlay shows the wrong port speed after setting autonegotiation to off and on because the XML API returns the incorrect configuration speed after disabling and enabling autonegotiation.
PD4-902392480, PD4-776663281	ScreenPlay does not load management information. It just prints "Loading" for the "Management" information on the dashboard tab.
<b>sFlow</b>	
PD4-1083414641, PD4-962328921	VRRP advertisement packets are dropped when sFlow sampling is enabled.
<b>SNMP</b>	
PD4-769355749	When more than five SNMP requests are received by a switch, the switch only responds to five requests at a time.
PD4-1010444641, PD4-902287187	The EXTREME-V2TRAP-MIB definition misses the "EapsRingPort" at the IMPORTS section. Because of this, the Spectrum NMS fails to compile the ExtremeXOS 12.1.3 MIB file with an error against EapsRingPort.
PD4-945120628, PD4-888471111	The snmpMaster process experiences memory depletion while sending out AuthFailure SNMP traps.  <b>Workaround:</b> Disable the AuthenTraps by setting the OID snmpEnableAuthenTraps to value 2 (disabled).  <code>snmpset -v 2c -c snmpEnableAuthenTraps.0 i 2</code>
PD4-815857259, PD4-747221911	Changing the storage type of default SNMP objects (Communities/Users/Groups/Access) to "non-volatile" allows a user to delete these default SNMP entities like any other user created entity.
PD4-901753841, PD4-547591482	Performing an snmpwalk on OID 1.3.6.1.4.1.1916.1.4 (enterprises.extremeAgent.extremePort) on a stack returns the error No Such Object available on this agent.
PD4-962617420, PD4-920567275	Process FDB may die with signal 11 when processing SNMP Get requests for dot1dTpFdbTable.
PD4-1014320379, PD4-950751340	Configuring an SNMP target address using a MIB incorrectly sets the VR option, which results in traps not being sent.
<b>Spanning Tree Protocol</b>	
PD4-822468514, PD4-538752306	The <code>load script</code> command displays an error if the script file contains MSTP configurations.

**Table 57: Resolved Issues, Platform-Specific and Feature PDs (Continued)**

PD Number	Description
PD4-863979257, PD4-814770957	An STP topology change triggers EAPS to flush FDBs and send FlushFdb PDUs despite the fact that none of the STP protected VLANs are participating in EAPS.
PD4-931015749, PD4-925787371	In RSTP, when a port becomes a root port and an alternate port exists on a bridge, agreement BPDUs are not immediately sent back as per standards.
<b>VRRP</b>	
PD4-804569911, PD4-796161449	System memory is depleted when non-ICMP IP packets are sent to a VRRP virtual IP address.
PD4-860703541, PD4-855539430	When ping-tracking is enabled for VRRP, VRRP performs the failover based on a cumulative ping-track failure instead of consecutive ping-track failures.
PD4-824643270, PD4-629585032	VRRP backup does not return the real IP address of the VRRP master for the SNMP object vrrpOperMasterIpAddr.